# REVIEW IN HERBAL COSMETICS

# <sup>1</sup>Mr. Rushikesh Kantilal JAGTAP, <sup>2</sup>Vishal Kopnar, <sup>3</sup>Dr.Amol Khedekar, <sup>4</sup>Aswini Pawar, <sup>5</sup>Mr.Amol Shingade, <sup>6</sup>Mr.Shubham Devkate

<sup>1</sup>Research scholar, <sup>2,4</sup>Assistant Professor, <sup>3</sup>principal, <sup>5,6</sup>Student Saikrupa Institute Of Pharmacy Collage Ghargaon ,Shrigonda, Ahmadnagar. Corresponding Author:-Rushikesh Kantilal Jagtap Project Guide- Vishal kopnar

Abstract- Herbal cosmetic also known as "natural cosmetics". With the Beginning of the civilization, mankind had the magnetic dip towards Impressing others with their looks. At the time, there were no fancy Fairness creams or any cosmetic surgeries. The only thing they had was The knowledge of nature, compiled in the ayurveda. With the science of Ayurveda, several herbs and floras were used to make herbal cosmetics That really worked. Ayurvedic cosmetics not only beautified the skin But acted as the shield against any kind of external affects for the body. Ayurvedic cosmetics also known as the herbal cosmetics have the Same estimable assets in the modern era as well.

There is a wide gamut Of the herbal cosmetics that are manufactured and commonly used for daily purposes. Herbal Cosmetics like herbal face wash, herbal conditioner, herbal soaps, herbal shampoo, and many More are highly acclaimed by the masses. The thing of the herbal cosmetics is that it is Purely made by the herbs and shrubs. The natural content in the herbs does not have any side Effects on the human body; instead enrich the body with nutrients and other useful minerals. Herbal cosmetics are comprised of floras like sandal (chandan), saffron (kesar) and many More that is augmented with healthy nutrient sand all the other necessary components.

Keywords: natural cosmetics, ayurveda, herbal conditioner. Cosmetic, Herbal lotion.

#### INTRODUCTION

The Greek term "kosm-tikos," which means "having the power, order, and skill in decorating," is where the word cosmetic originated. The story of how cosmetics came to be tells the chronicle of human development throughout history. In prehistoric times, around 3000 BC, man employed color to entice the animals he wanted to kill. He also used color to defend himself from rival attacks by adorning his body and covering his skin to make an enemy (whether human or animal) afraid. Cosmetics have roots in hunting, combat, religion, and credulity. Later, they were linked to medicine. The normal work, habits, climate, upkeep, and state of health were to blame for People's beauty in terms of their skin and hair. The skin will get dehydrated from prolonged exposure to heat. Produces sunburns, wrinkles, freckles, blemishes, and pigmentation during the summer.

The Severe winters can harm skin and hair, resulting in cracks, cuts, and maceration. Hairs and infections, All age groups are susceptible to skin problems, which can be caused by Exposure to environmental biological toxins, chemical agents, and microorganisms And also partially as a result of starvation." The only thing they could depend on was the Nature's wisdom and expertise come together in Ayurveda. The Ayurvedic science had Used a variety of plants and herbs to create cosmetics for beauty.

# **Benefits of Herbal Cosmetics**

- 1. Natural Ingredients: Derived from plants, herbs, and natural sources, they often contain fewer synthetic chemicals.
- 2. Gentle on Skin: Tend to be milder and less likely to cause irritation or allergic reactions.
- 3. Nourishing: Many herbs have inherent properties that provide essential nutrients and vitamins to the skin.
- 4. Hydrating: Natural moisturizing agents in herbal cosmetics help maintain skin hydration.
- 5. Antioxidant Properties: Herbs often possess antioxidants that combat free radicals, slowing down skin aging.
- 6. Reduced Side Effects: Generally have fewer side effects due to their natural composition.
- 7. Suitable for Sensitive Skin: Particularly beneficial for individuals with sensitive skin types.
- 8. Holistic Approach: Focus not just on external beauty but also on overall wellness.
- 9. Anti-inflammatory: Many herbal ingredients have anti-inflammatory properties, soothing irritated skin.
- 10. Balancing: Some herbs aid in balancing skin oil production, suitable for various skin types.
- 11. Environmentally Friendly: Often involve sustainable and eco-friendly manufacturing practices.
- 12. Improved Skin Texture: Regular use can contribute to smoother and softer skin.
- 13. No Harmful Chemicals: Typically free from parabens, sulfates, and other harmful chemicals.

- 14. Cruelty-Free: Many herbal cosmetic brands are against animal testing.
- 15. Aromatherapeutic: Natural fragrances from herbs can have a calming or refreshing effect.
- 16. Herbal Healing: Some herbs have healing properties, beneficial for treating minor skin issues.
- 17. Long-Term Benefits: Continuous use may lead to improved skin health over time.
- 18. Bio-degradable: Biodegradable ingredients make them eco-friendly.
- 19. Customizable: Can be tailored to individual needs using different herbal combinations.
- 20. Traditional Wisdom: Often based on ancient knowledge of natural remedies passed down through generations.

# The meaning of cosmetics explained!

"Articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into or otherwise applied to the human body or any part thereof for cleansing, beautifying, encouraging attractiveness, or altering the appearance are defined as cosmetics under the Drugs and Cosmetics Act. The cosmetic is not covered by a drug license preview."

## What Herbal Cosmetics Are Definitiond.

These are cosmetics made using plant-based ingredients that have cosmetic properties. The moderate effect and non-toxic nature of botanicals have led to a recent increase in their use in cosmetics. Both natural and phyto-ingredients are employed in cosmetics. Organic goods Add extracts, oils, secretions, and so forth. Pure components acquired through diverse methods are referred to as phyto-ingredients.

	<b>Types of C</b>	osmetics		
	Eye	Hair	Skin Cosmetics	Dental
	Cosmetics	Cosmetics		and Oral
			a. Cleansing	Cavity
	a. Eye	a. Hair	preparation	Cosmetics
	liners	Dye		
			b. Skin nourishing	a. Tooth
	b. Eye	b. Hair Oil	(Sunbam,	Paste
	Gloves		Sunscreen)	
	**	c. Hair		b. Tooth
	c. Kajal	Creams	c. Skin tonic	Powder
	1.0	1 11 . 6 1	1 01 :	N/L (1
	d. Surma	d. Hair Gels	d. Shaving cream	c. Mouth Washes
	Contact		a Malra um	wasnes
	e. Contact Lens	e. Antidandruff	e. Make up	d. Teeth
	Lens	preparation	1. Face mark	d. Teem
	F. Eye	preparation	1. I dee mark	Whitening
	Brow	f. Hair	2. Vanishing cream	· · · · · · · · · · · · · · · · · · ·
	Pencils	removing		Chewing
		Creams	3. Powder	S
				e. Gum
		Shampoos	4. Multipurpose	
			(Sports)	
		1. Clear		
		liquid		
		Shampoos		
		2 7 1		
		2 Liquid		
		Cream		
		Shampoos		
		3.Solid		
		Cream		
		= 1		
		Shampoos		
٠				1

4. Egg/Herbal/O Shampoos	
5. Dry Powder Shampoos	
6. Aerosol Shampoos	

# 1)Eye Cosmetics

Eye makeup is frequently used to draw attention to the naturally beautiful eyes and give the impression that the eyes are bigger and more prominent, which enhances the appearance of the eyes. Cosmetics can have a good psychological and physical influence on women globally by enhancing their self-esteem, according to a study.

(1). Facial neoteny is a term used to explain the importance of eye cosmetics to a woman's facial beauty (2). The data indicates that young adults and college students use eye cosmetics at a fairly high rate globally. Female students spend more on makeup than women in the Gulf, the West, or the Arab world (3). Eyeshadow, eyeliner, and mascara are the most often used eye cosmetics. There are several ways to apply eye shadows, including pencil, Compositions in cream and powder form. Pressed powders consist primarily of talc mixed with pigments and either magnesium or zinc stearate as a binder (4). The anhydrous cream utilized in the pencil, stick, and cream formulations is entirely waterproof and is made of pigments based in lanolin, cocoa butter, or petrolatum. Greater wax is added to creams in these formulas to give them greater solidity.

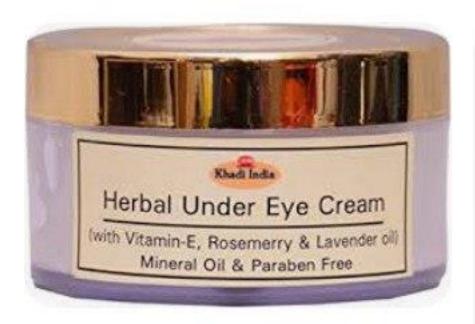


Fig.1 Eye Cosmetics

Eyeliner: Used to define the eyes, such as liquid liners, pencil liners, gel liners.

Examples: Maybelline Eye Studio Master Precise Liquid Eyeliner, Urban Decay 24/7 Glide-On Eye Pencil.

Mascara: Enhances eyelashes, making them darker, thicker, and longer.

Examples: L'Oréal Voluminous Lash Paradise Mascara, CoverGirl LashBlast Volume Mascara.

Eyeshadow: Pigmented powders or creams applied to the eyelids to add color or depth.

Examples: Anastasia Beverly Hills Modern Renaissance Eyeshadow Palette, MAC Cosmetics Eye Shadow.

Eyebrow Products: Used to fill, shape, and define eyebrows, including pencils, gels, powders. Examples: Benefit

Cosmetics Gimme Brow+ Volumizing Eyebrow Gel, Anastasia Beverly Hills Brow Wiz.

Eye Primer: Applied before eyeshadow to enhance color payoff and longevity.

Examples: Urban Decay Eyeshadow Primer Potion, NYX Professional Makeup Proof It! Waterproof Eyeshadow Primer.

False Eyelashes: Artificial lashes applied to enhance lash volume and length.

Examples: Ardell Demi Wispies False Eyelashes, Velour Lashes Effortless No Trim Natural Lash Collection.

#### 2) Hair Cosmetics

Color, tone, and style of hair have a significant impact on how people look physically. In order to stop dandruff from forming, hair care preparations are applied topically to the scalp and hair. They contain substances that either clean, condition, or nourish the hair.



Fig.2 Hair Cosmetics

The several hair care preparations are listed below.

1)Disinfectant

-Such as reetha, shikakai, and soap nut

Air conditioners

For example, henna, amla, hibiscus, rosemary, and tea

Such as coconut oil, eggs, brahmi, and bhringraj.

Colorant for hair

For instance, henna

Stimulants for hair growth

Such as coconut oil, hibiscus, and amla

Prevention of dandruff

## 3) Skin Cosmetics

Skin is continuously exposed to toxins, microbes, irritants, radiation, and dirt, all of which can have a negative impact on the skin. Therefore, a variety of preparations are used to protect the skin, cleanse it, restore its tone, soothe it, and stop tanning, wrinkles, and scar formation. These preparations are listed below.



Fig.3 Skin Cosmetics

Skin-cleansing agent

Such as aloe, cucumber, and citrus peels.

Hydrator

For example: Rose Nourishers, Aloe Vera, Neem, and Almond Oil

Such as wheat germ oil, honey, carrots, and peaches.

Disinfectants

Such as tulsi, neem, turmeric, and lavender oil

Agents that soothe (Emollients)

Such as almond oil, sesame oil, and aloe vera

Sunscreen

Such as cucumber, calendula, chamomile, and aloevera. Anti-aging and anti-wrinkles

Such as aloe vera, papaya, licorice, and peaches.

Insect acne

Such as vetiver and cucumber gel

# 4) Dental and Oral Cavity Cosmetics

Various products are available based on their special clinical indications including toothpastes, mouthwashes, toothwhitening products, and denture care materials. Although these products have gone through standard safety evaluations prior to marketing, and

Fig.4 Dental And Oral Cavity Cosmetics



Have been approved by the regulatory bodies, local and systemic adverse reactions associated with different materials in each category have been rreported.

Toothpowder: Powdered formulations containing herbs for cleaning teeth and gums. Examples: Dabur Red Ayurvedic Herbal Tooth Powder, Patanjali Dant Kanti Dental Cream.

Herbal Oral Sprays: Natural sprays designed to freshen breath and support oral health.

Examples: Spry Xylitol Moisturizing Mouth Spray, Dr. Brite Refreshing Mouth Spray.

Herbal Dental Floss: Dental floss infused with herbal extracts for a natural alternative to traditional floss.

Examples: Desert Essence Tea Tree Oil Dental Floss, Eco-Dent VeganFloss Premium Dental Floss.

Herbal Toothpaste: Toothpaste made with herbal ingredients like neem, clove, mint, and more for natural oral care.

Examples: Himalaya Herbals Complete Care Toothpaste, Auromère Ayurvedic Herbal Toothpaste.

Herbal Mouthwash: Mouth rinses formulated with herbal extracts to freshen breath and maintain oral hygiene.

Examples: TheraBreath Fresh Breath Oral Rinse, Jason Natural Healthy Mouth Mouthwash.

#### **Herbs Use As Cosmetics:**

# **Eye Cosmetics**

# Cucumber

Cucumber herbal eye cosmetics typically include products like eye creams, gels, or serums infused with cucumber extracts. These formulations harness the soothing and hydrating properties of cucumberThe soothing properties of cucumber help alleviate puffiness and reduce the appearance of tired eyes. Its natural hydrating abilities aid in moisturizing the skin, combating dryness, and improving the overall texture of the under-eye area.

Cucumber-infused eye cosmetics are also known for their gentle nature, making them suitable for those with sensitive skin. The cooling sensation they provide upon application can offer immediate relief, especially after a long day or when dealing with eye strain due to screen time or environmental stressors. Additionally, these products are often formulated to target dark circles, helping to brighten and revitalize the skin. Regular use of cucumber-based herbal eye cosmetics can contribute to a refreshed, rejuvenated appearance around the eyes, promoting a more youthful and healthy look.



Fig.5 Cucumber

Vernacular Name:-Cucumber

Chemical Constituents:-The chemical constituents present in cucumber-based eye cosmetics primarily stem from the cucumber itself, which contains various compounds contributing to its beneficial properties for skincareCucurbitacins: These are natural compounds found in cucumbers known for their anti-inflammatory properties. They help in soothing the skin and reducing puffiness around the eyes.

Vitamins: Cucumbers are rich in vitamins, particularly vitamin C and vitamin K, both of which contribute to skin brightening and revitalization. Vitamin C assists in collagen production, while vitamin K aids in reducing dark circles. Flavonoids and Antioxidants: These compounds help in fighting free radicals, providing antioxidant benefits that support skin health, reduce oxidative stress, and potentially combat signs of aging.

Water: Cucumbers have a high water content, providing hydration to the skin. This moisture helps in plumping and rejuvenating the delicate skin around the eyes.

Minerals: Cucumbers contain minerals like potassium and magnesium, which can help nourish and revitalize the skin. Uses:-Soothing Effect: Cucumber's cooling and calming properties help soothe and reduce puffiness around the eyes. Its application can offer relief from tired and stressed eyes.

Hydration: The high water content in cucumber helps in moisturizing the delicate skin around the eyes, combating dryness and improving skin texture.

Reduction of Dark Circles: Cucumber is believed to contain compounds that may help lighten and reduce the appearance of dark circles under the eyes.

#### **Hair Cosmetics**

Shikakai:

The plant Acacia concinna Linn. (Leguminosae) grows in southern Asia's tropical rainforests and may be beneficial to health. The fruits of this plant are used as a purgative, expectorant, emetic, and to wash hair. They also help to promote hair growth. Anthra Quinones glycosides, sugar, tannin, alkaloids, saponins, and flavanoids are all present in Acacia concinna Linn powder.



Fig.6 Shikakai

Vernacular Name:-Acacia concinna, Soap nut acacia.

Chemical Constituents:-Shikakai, a natural herb used in hair care, contains various chemical constituents that benefit hair health. It comprises saponins, flavonoids, alkaloids, vitamins (such as vitamin C), and antioxidants. These constituents help cleanse the scalp, promote hair growth, strengthen hair follicles, and maintain overall hair health. Shikakai is often used as a natural alternative to shampoos due to its gentle cleansing properties.

Uses:-Shikakai is widely used in herbal hair care due to its numerous benefits. It's known for its ability to cleanse the scalp gently without stripping away natural oils, reducing dandruff, and promoting healthy hair growth. Shikakai also helps in detangling the hair, adding shine, and making it more manageable. It's often used as a natural shampoo or in combination with other herbs like amla and reetha to create homemade hair cleansers or hair masks.

# **Skin Care Cosmetics**

Coconut oil:

The fruit or seed of the coconut palm tree, Cocos nucifera, a member of the Arecaceae family, is used to make coconut oil. The dried kernel, or copra, which contains between 60 and 65 percent oil, is crushed to create it. Lower chain fatty

acids and glycerides are abundant in coconut oil. Coconut oil can be used easily in liquid or solid forms and is frequently used in baking and cooking because it melts at a temperature of 24 to 25°C (75 to 76°F).



Fig.7 Coconut Oil

Vernacular Name:-Cocos Nucifera Oil

Chemical Constituents:-Coconut oil mainly consists of saturated fats, primarily medium-chain fatty acids like lauric acid, caprylic acid, and capric acid. It also contains traces of vitamins E and K, as well as iron. These constituents contribute to its various health benefits and versatile uses.

Uses:-Coconut oil is a popular ingredient in herbal skincare due to its moisturizing properties. It can act as a natural emollient, helping to hydrate the skin and lock in moisture. Additionally, its antimicrobial properties might help in managing certain skin conditions. Some use it as a makeup remover, moisturizer, or as part of a DIY face mask or body scrub. However, it's essential to be mindful of individual skin sensitivities and potential allergic reactions before using it extensively.

# **Dental and Oral Cavity Cosmetics**

Alove vera

Aloe vera is an ingredient in some oral products like toothpastes and mouthwashes. Use these products on a regular basis to prevent or treat gum disease caused by inflammation or bacteria. Drinking aloe vera juice is another way you can incorporate aloe into your dental care rroutine



Fig.8 Alove vera

Vernacular Name:-Gwar Patha or Ghrit Kumari'

Chemical Constituents:-Aloe vera used in dental care typically contains compounds like vitamins (A, C, E), enzymes (such as amylase and lipase), minerals (calcium, magnesium, zinc), polysaccharides (acemannan), and anti-inflammatory agents (like anthraquinones). These components contribute to its soothing, antibacterial, and healing properties when used in dental products. In addition to the mentioned constituents, aloe vera used in dental care might also contain antioxidants, amino acids, lignins, and salicylic acid. These elements can provide further benefits such as promoting healing, reducing inflammation, and aiding in maintaining oral hygiene.

Uses:-Gum Health: Its anti-inflammatory properties help reduce gingivitis and soothe gum irritation.

Antibacterial Action: Aloe vera can fight bacteria, potentially reducing plaque and preventing cavities.

Healing: It aids in healing mouth ulcers and lesions due to its soothing nature.

Freshness: Some products use aloe vera for its refreshing feel and natural taste.

Overall Oral Hygiene: Its various compounds contribute to maintaining a clean and healthy mouth.

#### **CONCLUSION:-**

The base for herbal cosmetics is made from ingredients that are approved for use in cosmetics.

Which one or more herbal remedies are applied to various skin conditions and for the Aesthetics. All of these cosmetic products' chemical formulations include the addition of Different natural additives, such as plant parts, oils, waxes, and natural colors and fragrances Such as leaves, etc.

Cosmeceuticals are substances that fall between makeup and skincare products. (lipstick and rouge) and pure pharmaceutical techniques (corticosteroids, antibiotics). The beauty The greatest way to lessen skin issues like hyperpigmentation and skin Wrinkles, aging skin, rough skin, and so forth. Demand for herbal cosmetics is rising quickly Growing. Herbal cosmetics have fewer side effects and a lower cost.

Safe to use, friendly to the environment, etc. has a bright future ahead of it in comparison to the Artificial makeup. Standardizing and regulating these herbs appropriately will result in Enormous and noteworthy expansion in the herbal cosmetics industry.

#### **REFERENCES:**

- 1. Hughes GR: J. Soc. Cosmet. Chem., 1959; X: 159.
- 2. Kapoor VP: Herbal Cosmetics for skin and hair care. Natural Product Radiance, 306-314.
- 3. Encyclopaedia. Britannica, Edition 14th, 1929.
- 4. Saha R: Cosmeceuticals and herbal drugs: practical uses. International Journal of Pharmaceutical Research and Sciences, 2012; 3: 59-65.
- 5. Sharma HD and Paramesh R: Trends in aging and skin care: Ayurvedic concepts. Journal of Ayurveda and Integrative Medicine, 2010; 1: 110-113.
- 6. Dr. D. K. Chaudhuri, sc 'F & H PCSI, june 2006.
- 7. https://www.slideshare.net/sudheerkandibanda/herbalcosmetic.
- 8. https://www.slideshare.net/rahimbrave/herbal-cosmetice.
- 9. Kapoor VP. Herbal cosmetics for skin and hair care, Natural product radiance (306-https://www.simole.m.wikipedia.org/wiki/herb
- 10. Draelos ZD, Topical Antiinflammatory agents, Cosmetic Dermatol, 2003; 16(10): 41-42.
- 11. Pandey Shivanand, Meshya Nilam, D.Viral, Herbs Play an Important Role in the Field of Cosmetics, International Journal of Pharm Tech Research, 2010; 2(1): 632-639.
- 12. Glaser DA, Anti-ageing products and cosmeceuticals, Facial Plast Surg, Clin N Am, 2004; 12(4): 363-372.
- 13. Draelos ZD, Botanical antioxidants, Cosmetic Dermatol, 2003; 16(10): 41-42.
- 14. VP Kapoor, Herbal cosmetics for skin and hair care, Indian Journal of Natural Products and Resources (IUNPR) [Formerly Natural Product Radiance (NPR)], 2005; 4(4): 306-314.
- 15. Drugs act Commercial's, "Manual on Drugs and Cosmetics" [online]Prashant L Kole, Hemant R Jadhav,
- 16. [ Prasad Thakurdesai and Anantha Naik Nagappa, cosmetics potential of herbal extracts, Indian Journal of Natural Products and Resources (UNPR) [Formerly Natural Product Radiance (NPR)], 2005; 4(4): 315-321.
- 17. Harry RG, In: Modern Cosmeticology [online], Chemical Pub. Co., 1962; 1.
- 18. Rousseaux CG and Schachter H. Regulatory issues concerning the safety, efficacy and quality of herbal remedies. Birth Defects Res. B, Dev Reprod Toxicol, 2003; 68(6): 505-510. 7
- 19. http://en.wikipedia.org/wiki/Cosmetics
- 20. Cosmetics [online]. Available from: http://en.wikipedia.org/wiki/Cosmetics
- 21. http://www.flowersofindia.net/catalog/slides/Cucumber.html.
- 22. Rajshree KR, Durairaj B. Evaluation of the antityrosinase and antioxidant potential of zinc oxide nanoparticles synthesized from the brown seaweed-turbinaria conoides. Int J Appl Pharm, 2017; 9: 116-20. [http://dx.doi.org/10.22159/ijap.2017v9i5.20847].
- 23. http://dx.doi.org/10.22159/ijap.2017v9i5.20847
- 24. Burnett CL., Fiume MM, Bergfeld WF, et al. Safety assessment of plant-derived Fatty acid oils as used in cosmetics. Washington, DC: Cosmetic Ingredient Review, 2011.
- 25. Heyne K. Useful plants. Indonesia. Jakarta: Sana Wana Jaya Foundation, 1987; Vol. I: pp. 586-7.
- 26. Tarigan JB. Phytochemical screening of plants used by traders Jamu Gendong to maintain skin face in medan baru district. Sumatra Biology, 2008.

- 27. Muco- West DP, Zhu YF.Evaluation of aloe vera gel gloves in the treatment of dry skin associated with occupational exposure. AmJ Infect control, 2003; 31: 40-2 (pubmed) (google scholar).
- 28. http://rjtcsonline.com/HTMLpapers/Research%20journal%20of%20topical%20and%20c
- 29. Osmetic%20sciences-PID-2018-9-2-2.html.
- 30. http://rjtcsonline.com/HTMLpapers/Research%20journal%20of%20topical%20and%20c
- 31. https://www.indianherbalvalley.com/post/health-benefits-of-shikakai-powder.
- 32. http://www.pharmacy180.com/article/amla-318/
- 33. https://m.netmeds.com/health-library/post/amla-benefits-uses-for-hair-and-health-
- 34. Conditions-supplements-and-recipes.
- 35. https://www.healthline.com/health/food-nutrition/almond-oil#Benefits-of-almond-oil-for-ski.
- 36. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2763764/.Atherton P. Aloe vera revisited. Br J Phytother, 1998; 4: 76-83. [Google Scholar].
- 37. Shelton M. Aloe vera, its chemical and therapeutic properties. Int J Dermatol, 1991; 30: 679-83. [PubMed] [Google Scholar]
- 38. Atherton P. The essential Aloe vera: The actions and the evidence. 2<sup>nd</sup> ed 1997. [Google Scholar]
- 39. https://rjpponline.org/HTMLPaper.aspx?Journal Research%20Journal%20of%20Pharma cognosy%20and%20Phytochemistry;PID-2013-5-2-https://rjpponline.org/HTMLPaper.aspx?Journal
- 40. https://www.medicalnewstoday.com/articles/283006#nutrition.
- 41. http://www.cosmeticsinfo.org/ingredient details.php?ingredient id=1699.
- 42. http://www.epharmacognosy.com/2012/04/bitter-almond.html?m=1. S://pubmed.ncbi.nlm.nih.gov/12552899/.

