



## Herbal Cosmetics: An Overview

*Sathe Komal Pramod\*, Raykar Meghana Hiranman, Pawar Jaydeep Babasaheb*

*HSBPVT's, GOI Faculty of Pharmacy Kashti:414701, Shrigonda, Ahmednagar, Maharashtra, India.*

### ABSTRACT

Since ancient times, medicinal and cosmetic products have been made from herbal plants. It is generally recognized that they have the ability to soothe, treat, and improve a variety of skin conditions. The herbal industry has made significant advancements since the turn of the twenty-first century. Because they are more readily available and have less adverse effects than chemical drugs, herbal components are recommended. Natural beauty is a blessing, and cosmetics help people exhibit and improve their aesthetic and personality traits. The skin and other body parts cannot be cared for by cosmetics on their own; active substances must be combined to stop skin damage and ageing. Depending on the kind of functional substances they include, cosmetics can have medical effects that influence how the skin functions biologically. The public has become very accustomed to utilizing herbal cosmetics. The popularity of herbal cosmetics has grown significantly among the general public. Due to regular usage in daily life, herbal cosmetics have been proven to be effective and intrinsically acceptable and to avoid the negative consequences frequently associated with synthetic products.

Keywords: Cosmetics, herbs, health, safety.

### Introduction

Ancient humankind and civilizations have ideas about beauty and cosmetics. The term cosmetic comes from the Greek word "kosm tikos," which means to have the ability to plan and decorate. The cosmetics, according to the Drugs and Cosmetics Act is defined as articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into or otherwise applied to the human body or any part for cleansing, beautifying, promoting attractiveness or altering the appearance. Typically, natural cosmetics and herbal cosmetics are used interchangeably.

Cosmetic Preparations are classified into following categories (1):

- Solid preparations: Talcum Powder, Face Powder, Compact Powder
- Semisolid preparations: Cream, Ointment, Liniments
- Liquid preparations: Hair Oil, Shampoo, Lotion, Mouthwashes, Sprays etc.

Herbal cosmetics are created by mixing one or more herbal substances with other cosmetic elements to treat a variety of skin conditions. Plants have a significant role in the creation of novel medicinal and cosmetic products. Products that contain herbs in their raw or extracted form are known as herbal cosmetics. (2) Herbs are unprocessed plant parts that may be whole, broken up, or pulverised up, such as leaves, flowers, fruit, seeds, stems, wood, bark, roots, rhizomes, or other plant parts. Along with plants, herbal materials also include fresh juices, gums, fixed oils, essential oils, resins, and dry powders of various herbs. In various countries, these materials can be made locally using a variety of techniques, such as steaming, roasting, or stir-baking them with honey, alcoholic beverages, or other seasonings. (3)The natural components in herbs have no negative impact on human health; rather, they give the body nutrition and other beneficial elements. Herbal cosmetics are available in a huge range and are produced and used on a daily basis. The general public loves using herbal cosmetics, including herbal conditioners, herbal shampoos, herbal face washes, and herbal soaps. The nicest part about herbal cosmetics is that they are made completely of herbs and shrubs. Despite the fact that many commercial cosmetic products presently contain natural compounds made from plant extract; this area of study is particularly fascinating. (4, 5)

### Advantages of Herbal Cosmetics

The following advantages come with current herbal cosmetics' good maintenance of colour, odour, elegance, and efficacy:

- **Natural products**

The term implies that, herbal cosmetics are supposed to be all-natural and free of any potentially dangerous synthetic ingredients that might hurt the skin. These products employ various plant components and plant extracts in place of conventional synthetic products, such as aloe-vera gel and coconut oil. They also include natural nutrients like Vitamin E, which maintains healthy, radiant skin. For instance, Aloe vera is a naturally occurring herbal plant

species that is accessible and member of the Liliaceae family. Consumers who care more about substances like synthetic chemicals and mineral oils desire more natural goods that are devoid of dangerous chemicals and emphasize the benefits of botanicals. (6,7)

- **Suitable for All Skin Types**

Herbal cosmetics are appropriate for every type of skin. Whether you have dark skin or are fair, you may discover natural cosmetics like foundation, eye shadow, and lipstick that work for you. They can be used by women with sensitive or oily skin without compromising their skin's state. The primary worry with specific coal tar colorants (whether made from coal tar or synthetically) are that they can cause cancer. Coal tar is recognized as a human carcinogen and is used widely in cosmetics. Natural colors made from plants, however, are safer. (8)

- **Safe to use**

In comparison to traditional beauty products, using natural cosmetics is safe. They have been dermatologists-tested and dermatologist-proven hypoallergenic, making them safe to use anytime, anyplace. People don't have to worry about developing skin rashes or itching because they are comprised of natural substances. As an example, the synthetic antioxidants BHA (butylated hydroxy-anisole) and BHT (butylated hydroxytoluene), which are employed as preservatives in lipsticks and moisturizers, are closely related. BHA and BHT might cause adverse skin reactions. BHA has been identified as a potential human carcinogen by the International Agency for Research on Cancer. Natural antioxidants like Vitamin C are present in herbal cosmetics. (9,10,11)

- **Not Tested on Animals**

Some cosmetics are originally tested on animals to make sure they are effective and safe to use on humans. However, it is not necessary to test natural cosmetics on animals. Experts evaluate these natural compositions in labs using cutting-edge machinery without involving any animals. (3)

- **Wide selection to choose from**

Although natural cosmetics are still a relatively young category in the cosmetics market, they already provide an absurdly wide range of cosmetic options. There are several naturally formulated foundations, lipsticks, eye shadows, mascaras, blushes, concealers, and other cosmetics available. Additionally, natural cosmetics produced locally or cosmetics created by well-known international designers are available. Numerous herbal extracts are available, including *Andrographis Paniculata* (Kalmegh), *Boswellia Serrata* (SalaiGuggal), *Asparagus Racemosus* (Shatawari), *Asphalt* (Shilajit), and others. (12)

- **Affordable**

Natural cosmetics don't cost a lot. In certain cases, these items are less expensive than synthetic ones. During the sale, they are presented at a reduced price and are sold for a low cost. To find fantastic offers, one only needs to complete enough surveys. According to a WHO estimate, 80% of the world's population relies on natural goods for their healthcare due to the negative side effects and escalating costs of modern medication. Due to their accessibility, affordability, and relative safety, traditional herbal remedies are being encouraged and recommended by the World Health Organization in natural health care programmes. (13)

**The requirements for basic skin care are as follows (14):**

- **Cleaning agent:** It clears the dirt, dead skin cells, and dust that clog skin pores. Vegetable oils including coconut, sesame, and palm oil are some of the popular cleaners.
- **Toners:** Toners aid to tighten the skin and shield it from various environmental pollutants and many of the chemicals that are present in the air. Witch hazel, geranium, sage, lemon, ivy burdock, and essential oils are a few of the plants used as toners.
- **Moisturizing:** Moisturizing makes the skin more supple and smooth. Those who moisturize have a healthy glow and are less likely to age. Vegetable glycerin, sorbitol, rose water, jojoba oil, aloe vera, and iris are a few examples of herbal moisturizers.

---

## Herbal medicines used in various conditions

### Turmeric:

Indians utilize turmeric in many of their festivities. Brides would apply turmeric on their bodies, especially at Hindu weddings, to give them a bright appearance. Babies are also given turmeric to rub on their foreheads for luck. In the past, women would apply turmeric on their cheeks to get a golden glow. Tropical South Asia is home to the rhizomatous herbaceous perennial turmeric plant (*Curcuma longa*), a member of the ginger family (*Zingiberaceae*). Currently, several sunscreen formulations incorporate turmeric. They have anti-inflammatory, anti-cancer, and antibacterial properties. Skin disorders such psoriasis, atopic dermatitis, face photo aging, alopecia, and acne. Due to its antibacterial properties, turmeric's antioxidants prevent free radical damage to skin cells and hasten the healing of all types of wounds. A dark yellow to orange powder is used to lessen the amount of UVB-induced sunburn cells in mice. (15-17)

### Aloe:

A species of succulent plant belonging to the genus *Aloe* is aloe vera. Aloe, which has over 500 varieties, is widespread and is regarded as an invasive plant in many parts of the world. Traditional medicine use aloe vera as a skin treatment. Its usage is first documented in the fourth millennium BCE.

Additionally, the Juliana Anicia Codex from 512 CE makes reference to it. However, there is little scientific data on the efficacy or safety of Vera extracts for aesthetic or medical uses, and the favourable evidence that is available is frequently refuted by other research. Despite these drawbacks, some preliminary research suggests that aloe vera extracts may be effective in treating diabetes and an increased blood count in people. There is little and frequently conflicting scientific data supporting aloe vera's use in aesthetic and medicinal procedures. Despite this, advertisements for the beauty and alternative medicine sectors frequently promote the calming, moisturizing, and healing benefits of aloe vera, particularly online. Aloe vera is an extremely bitter and disagreeable meal. However, yoghurt drinks, and several sweets sold in stores contain vera gel as a component. Cosmetic businesses frequently add sap or other Aloe vera derivatives to items including cosmetics, tissues, moisturizers, soaps, sunscreens, incense, razors, and shampoos. Aloe vera seeds have also been considered as a potential source of biofuels. (18)

#### **Coconut oil:**

The dried kernel of copra, which contains 60–65% oil, is crushed to create it. Lower chain fatty acid glycerides are abundant in coconut oil. Coconut oil is made from the fruit or seed of the *Arecaceae* family coconut palm tree *Cocos nucifera*. Since coconut oil is easily used in liquid or solid form and has a melting point of 24 to 25°C (75-76°F), it is frequently used in baking and cooking. Coconut oil does wonder to soften and moisturise the skin. (19)

#### **Jjoba oil:**

It is a blend of long-chain, linear liquid wax esters that have been extracted from the seeds of *Simmondsia chinensis*, a desert plant in the *simmondsiaceae* family. Jjoba oil is frequently used in cosmetics as a moisturizer and as carrier oil for exotic perfumes since it can be readily refined to remove any odour, colour, and oxidative instability. Jjoba oil and human sebum are quite similar. Sebum serves as a natural barrier and moisturizer for the skin and hair, but it is worn away by toxins, pollutants, the sun, and the ageing process, leaving the skin and hair dry. Jjoba oil replaces lost nutrients and restores skin and hair to their natural pH balance. (20)

#### **Neem:**

*Azadirachta Indica*, sometimes referred to as neem, nimtree, or Indian lilac, is a member of the *Meliaceae* family of mahogany trees. The tree has several names in India, including "divine tree," "heal all," "nature's drugstore," "village pharmacy," and "panacea for all ailments." Neem is used to make a variety of products, including anti-helminthics. Neem also possesses sedative, antifungal, anti-diabetic, antibacterial, antiviral, and antiviral effects. It is regarded as a key component of Ayurvedic treatment and is particularly recommended for skin conditions. As an herbal cosmetic, Neem oil is used to make cosmetics (soap, shampoo, balms, and lotions) and is good for maintaining skin suppleness and treating acne. The neem tree is also very significant since it prevents desertification and could be an excellent carbon dioxide sink. Patients with chicken pox are advised to sleep on neem leaves by practitioners of traditional Indian medicine. Many different skin care products, body lotions, and face packs include the seed and leaf oils. The recipe is combined with additional all-natural substances. Since the market for herbal cosmetics is booming, neem oil producers everywhere are encouraged to produce high-quality neem oil for use in the cosmetics industry. (18)

#### **Calendula:**

*Calendula officinalis* has been found to possess exceptional antioxidant, anti-inflammatory, and wound-healing properties. According to a previous investigation, the primary constituents of the essential oil of calendula include thujene, pinene, 1,8-cineole, dihydrotagetonone, and tmuurolol. Applying calendula tincture or solution topically to treat acne can reduce swelling, stop bleeding, and calm inflamed skin. The use of calendula cream or ointment to treat radiation dermatitis is supported by 'limited evidence.' (2)

#### **Henna:**

Henna is a dye made from the chemical lawsone, which is found in the *Lawsoniainermis* plant family *Lythraceae* and is processed to make henna powder. Gallic acid, glucose, mannitol, lipids, resin (2%), mucilage, and traces of an alkaloid are also found in addition to lawsone. Hennatannic acid and an olive oil-green resin, both soluble in ether and alcohol, are produced by the leaves. Lawsone fruit is palatable. Both the valuable oil that is derived from the fruit's seeds and pulp and used as a therapy for hair and scalp issues as well as the fruit's high vitamin C content are highly commended. It is utilized for things like children's illnesses, hair loss, and eye disorders. (21)

#### **Amla:**

The Indian gooseberry (*Embllica Officinalis*) tree is a native of the Middle East and India. Fresh and dried fruits from the plant are frequently used as ingredients in Ayurveda recipes. The high tannin content of Indian gooseberry fruit, which is frequently used in inks, shampoos, and hair oils, acts as a mordant to set colors in textiles and is said to nourish the hair and scalp and prevent premature graying of the hair. Amla fruit is consumed fresh or prepared into a variety of meals, including dal (a lentil preparation) and amla murabbah, a dessert created by soaking the berries in sugar syrup until they turn into candy. Be gone is often drunk following a meal. In the Batak area of Sumatra, Indonesia, the inner bark is utilized to give the broth of a traditional fish soup called holat an astringent, bitter flavor. (22)

#### **Sandalwood:**

The Indian sandalwood tree is a member of the *S. album* trees or bushes, a type of woody flowering plant of which *Sanatlum album* L. is the most well-known and economically valuable. The majority are parasitic roots that produce their own food but draw water and inorganic nutrients from the roots of other species. Several species, particularly *S. album*, produce extremely fragrant wood that is utilized in herbal medicine, scent, and perfume. In

Ayurvedic medicine, it is also utilized as a flavoring agent to control the inflammatory responses that cause certain skin ailments. It has also been employed as an astringent. It may be used as a mask, face pack, etc. (23-28)

#### **Carrot**

It is derived from the Apiaceae plant species *Daucus carota*. Due to its abundance in vitamin A and other vital vitamins, it has been regarded as a useful herb for centuries. A revitalizing, renewing, and anti-aging agent is carrot seed oil. Carrots contain  $\beta$ -carotene, as well as trace levels of  $\alpha$ -carotene and  $\gamma$ -carotene, which give them their distinctive brilliant orange color. Humans partially metabolize  $\beta$ -carotene into vitamin A. (29)

#### **Green tea:**

The tea plant has been grown for a very long time in Asia. Green tea is produced only from *Camellia sinensis* leaves, a member of the Theaceae family. Green tea leaves include (2)-epicatechin (EC), EGC, (2)-EC-3-gallate, and EGCG, which is the most prevalent of the four main polyphenolic catechins. Green tea extracts or a specific green tea polyphenol (GTPP), particularly epigallocatechin (EGC)-3-gallate (EGCG), were found to inhibit two-stage chemical carcinogenesis, such as that caused by 7,12-di-methylbenz(a)anthracene [DMBA] and 12-O-tetra decanoylphorbol 13-acetate [TPA], as well as photo-carcinogenesis, which is brought on by UVB. It is a top-notch skin protector. It limits inflammation and guards against direct cell damage. Even Vitamin E cannot compare to the antioxidant properties of the catechins found in green tea. (30-33)

#### **Rose Oil:**

Rose Damascena and *Rosa Centifolia*, members of the Rosaceae family, provide the well-known essential oil known as rose oil. "Rose otto" is the name for rose oil that has undergone steam distillation; "rose absolute" is the name for the product obtained after solvent extraction. The use of it in perfumery is more frequent. Beta-damascenone, beta-damascone, beta-ionone, and oxide are the main flavouring substances that are responsible for the characteristic aroma of rose oil. (3)

#### **Shikakai:**

In Southern Asia's tropical rainforests, a plant known as *Acacia concinna* Linn. (Leguminosae) grows as a medicine. The fruits of this plant are used as a purgative, expectorant, emetic, and hair-washing agent in addition to promoting hair growth. There are saponins, alkaloids, sugar, tannin, flavanoids, and anthraquinone glycosides in the powder of *Acacia concinna* Linn. (34)

#### **Brahmi (Bacopa monnoria):**

The dried fruit of *Reetha* is used to make *Reetha* powder. It may be used as a face pack to lighten the skin on the face. It is applied to the hair to make it glossy and to enhance its beauty. Additionally, it eliminates head lice and dandruff. Additionally, it may be used to wash wool clothing and clean jewelry. It is utilized in herbal shampoos and Ayurvedic medicines. (3)

#### **Multani Mitts (Fullers Earth):**

It is Mother Nature's own baby powder. One of the first materials used as a beauty mask to pull oils from the skin, which are natural moisturizers for the hair, teeth, gums, and hair, was clay. to heal sunburn, unclog pores, clear the skin of flakes and grime, and eliminate pimple marks. (3)

#### **Sunflower Oil:**

This is non-volatile oil made from the seeds of *Helianthus annuus*, a member of the Asteraceae family. Lecithin, tocopherols, carotenoids, and waxes are all present in sunflower oil. It smoothes skin and is said to be non-comedogenic. Straightforward yet economical oil that has stood the test of time in a wide range of emulsions designed for face and body preparations. (2)

#### **Almond oil:**

The *Prunus dulcis* tree yields the almond oil. 78% of this fat is really found in almond oil. Super-unsaturated Omega-3 necessary fatty acids are present in extremely modest quantities in this oil. It softens and strengthens the hair and is incredibly nutritious. Additionally, almond oil shows to be an excellent cleaner. Before it became widely utilized as a commercial agricultural product, almond oil has been used for many millennia. (14, 35 )

#### **Saffron:**

*Crocus sativa*, a member of the Iridaceae family of plants, produces saffron, which is made up of the stigmas and tips of the styles. It is a perennial plant cultivated in India's Jammu and Kashmir. Saffron powder is used as a flavor and coloring agent in culinary preparations because of its yellow hue and ease of solubilization in water. There are many carotenoids found in saffron, and crocin is a significant natural carotenoid. Picrocrocine, a flavourless bitter glycoside, is in charge of giving saffron its distinctive aroma. (14)

## Herbs for skin care

**Table 1: List of herbs used for skin care**

Latin Name	Common Name	Part Used	Uses
Acoruscalamus	Sweet flag	Rhizome	Aromatic, Dusting Powder, skin Lotions
Allium sativum	Garlic	Bulb	Promote Skin healing, Antibacterial
Aloe vera	Aloe	Leaf	Moisturizer, sun screen Emollient
Alpinia galangal	Galangal	Rhizome	Aromatic, Dusting powder
Avena sativa	Oat	Fruit	Moisturizer, skin tonic
Azadirachta indica	Neem	Leaf	Antiseptic, reduce dark spots, antibacterial
Cichoriumintybus	Chicory	Seed	Clear skin of blemishes
Citrus aurantium	Orange	Peel	Skin creams, anti-acne, antibacterial
Curcuma longa	Turmeric	Rhizome	Antibacterial, antimicrobial skin creams
Daucuscarota	Carrot	Seed	Natural source of Vit. A, creams
Rubiocordifolia	Manjistha	root	Wound healing, Lighten pigmentation

## Herbs for Hair care

**Table 2: List of herbs used for hair care**

Latin Name	Common Name	Part Used	Uses
Aloe Vera	Aloe	Leaf	Moisturizer, shampoos
Azadirachta indica	Neem	Leaf	Antif-atigue graying of
Citrus lemon	Lemon	peel	Prevent hair loss
Eclipta alba	Bhringraj	Plant	Promoting hair growth,
Shampoos, Hair oil	Emblicoefficialis	Amla	Fruits
Hair care,	preventsgrayness, Anti	stress	Hibiscus rosasinesis
Lawsonia alba	Henna	Leaf	Hair growth,
Naturalconditiour	Marticariachamomilla	Chamomile	Flower

## Conclusion

The need for herbal cosmetics has increased in the personal care industry nowadays, and they are widely used in daily life. The human body's aesthetic beauty is greatly influenced by the presence of strong teeth, glossy hair, and radiant skin. Herbal cosmetics are created by starting with a base of cosmetic components and adding a variety of herbal substances to cure various skin conditions and enhance beauty. The greatest solution for minimizing skin issues including hyper pigmentation, skin wrinkling, skin ageing, rough skin texture, etc. is to use cosmetic items. The market for herbal cosmetics is expanding quickly. Herbal cosmetics provide advantages such as low cost, no side effects, eco-friendly, safe to use, etc. Comparing the near future to synthetic cosmetics, it looks amazing. The herbal cosmetics industry will see great and considerable expansion as a result of proper regulation and standardization of these plants.

## Acknowledgements

The authors thank the HSBPVT's, GOI Faculty of Pharmacy, Kashti, Shrigonda, Ahmednagar, Maharashtra, India, for encouragement.

## Disclosure of conflict of interest

The authors report no conflicts of interest.

## References

- (1) Rathore Kamal Singh, Nema R.K., "A Text Book of Cosmetics" Edi. Ist, CBS Publisher, 257-290.
- (2) Sharma S, Kaushik D. Role of Cosmaceuticals in Health Care System. World Journal of Pharmaceutical Research, 2022;11(3)523-540.
- (3) Bijauliya et al., A Comprehensive Review on Herbal Cosmetics. IJPSR, 2017; 8(12): 4930-4949.
- (4) Arquette DJ, Brown J, Reinhardt J, inventors; International Flora Technologies Inc, assignee. Dry emollient composition composing mono-unsaturated jojoba esters. United States patent US 6,432,428. 2002.
- (5) Ashawat M, Banchhor M, Saraf S, Saraf S. Herbal Cosmetics: " Trends in Skin Care Formulation". Pharmacognosy Reviews, 2009;3(5):82.
- (6) Akinyele BO, Odiyi AC. Comparative study of vegetative morphology and the existing taxonomic status of Aloe vera L. Journal of plant Sciences. 2007;2(5):558-63.

- (7) Vaidiyanathan R, Anand B. Importance of Chemistry in Herbal Cosmetics and Cosmeceuticals. *Research Journal of Pharmacy and Technology*, 2017;10(12):4460-2.
- (8) Winter RA: Consumers dictionary of cosmetic ingredients. Three Rivers press United states USA, Edition 7th, 2009.
- (9) Suzuki D: The "Dirty Dozen" ingredients investigated in the David Suzuki Foundation Survey of chemicals in cosmetics. *Background*, 2010; 1-15.
- (10) International Agency for Research on Cancer (IARC) monographs on the evaluation of carcinogenic risks to humans, 1978; 17: 1-365.
- (11) Kadam VS, Chintale AG, Deshmukh KP and Nalwad DN: Cosmeceuticals an emerging concept: A comprehensive review. *International Journal of Research in Pharmacy and Chemistry*, 2013; 3: 308-316.
- (12) Meena AK, Bansal P, Kumar S. Plants-herbal wealth as a potential source of ayurvedic drugs. *Asian J Tradit Med*. 2009 Aug 20;4(4):152-70.
- (13) Sharma A, Shanker C, Tyagi LK, Singh M, Rao CV. Herbal medicine for market potential in India: an overview. *Acad J Plant Sci*. 2008;1(2):26-36.
- (14) Joshi B. Herbal Cosmetics: A safe and effective approach. *Pharmatutor*. Available from: <https://www.pharmatutor.org/articles/herbal-cosmetics-used-skin-hair-care>.
- (15) Bakht J, Islam A, Ali H, Tayyab M, Shafi M. Antimicrobial potentials of *Eclipta alba* by disc diffusion method. *African Journal of Biotechnology*, 2011;10(39):7658-67.
- (16) Bakht J, Ali H, Khan MA, Khan A, Saeed M, Shafi M, Islam A, Tayyab M. Antimicrobial activities of different solvents extracted samples of *Linum usitatissimum* by disc diffusion method. *African Journal of Biotechnology*, 2011;10(85):19825-35.
- (17) Bakht J, Islam A, Shafi M. Antimicrobial potential of *Eclipta alba* by well diffusion method. *Pak. J. Bot*. 2011;43:161-6.
- (18) Gupta RK, Soni P, Shrivastava J, Rajput P, Parashar S. Cosmeceutical role of Medicinal plants/Herbs: A Review on commercially available Cosmetic ingredients. *Himalayan Journal of Health Sciences*. 2018 Dec 9:70-3.
- (19) Gediya SK, Mistry RB, Patel UK, Blessy M, Jain HN. Herbal plants: used as a cosmetics. *J Nat Prod Plant Resour*. 2011;1(1):24-32.
- (19) RabascoÁlvarez AM, González Rodríguez ML. Lipids in pharmaceutical and cosmetic preparations. *Grasas y Aceites*, 51 (1-2), 74-96.. 2000.
- (20) Hussain F, Pathan S, Sahu K, Gupta BK. Herbs as cosmetics for natural care: A review. *GSC Biological and Pharmaceutical Sciences*, 2022, 19(02), 316–322.
- (21) Pandey S, Meshya N and Viral D: Herbs play an important role in the field of cosmetics. *International Journal of Pharm Tech Research*, 2010; 2: 632-639
- (22) Kaur L, Singh AP, Singh AP, Kaur T. A review on herbal cosmetics. *International Journal of Pharmaceutics and Drug Analysis*. 2021 Sep 30:196-201.
- (23) Christenson PA, Secord N, Willis BJ. Identification of trans-  $\beta$  - santalol and epi-cis-  $\beta$  -santalol in East Indian sandalwood oil. *Phytochemistry* 1981; 20: 1139-41.
- (24) Deng S, May BH, Zhang AL, Lu C, Xue CC. Topical herbal medicine combined with pharmacotherapy for psoriasis: A systematic review and meta-analysis. *Arch Dermatol Res* 2013; 305(3): 179-89.
- (25) Pal RS, Pal Y, Saraswat N, Wal P, Wal A. Current review on herbs for derma care. *The Open Dermatology Journal*. 2019 Aug 31;13(1).
- (26) Alok S, Jain SK, Verma A, Kumar M, Mahor A, Sabharwal M. Herbal antioxidant in clinical practice: A review. *Asian Pacific journal of tropical biomedicine*. 2014 Jan 1;4(1):78-84.
- (27) Dragland S, Senoo H, Wake K, Holte K, Blomhoff R. Several culinary and medicinal herbs are important sources of dietary antioxidants. *The Journal of nutrition*. 2003 May 1;133(5):1286-90.
- (28) Niwano Y, Saito K, Yoshizaki F, Kohno M, Ozawa T. Extensive screening for herbal extracts with potent antioxidant properties. *Journal of clinical biochemistry and nutrition*. 2010;48(1):78-84.
- (29) Strube M. Naturally Occurring Antitumourigenes: Carotenoids except  $\beta$ -carotene. IV. *Nordic Council of Ministers*; 1999.
- (30) Kuroda Y and Hara Y: Anti-mutagenic and anti-carcinogenic activity of tea polyphenols. *Mutation Research/Reviews in Mutation* 1999; 436: 69-97.
- (31) Adhami VM, Mukhtar H, Ahmad N, Farrukh A and Yukihiko H: Tea polyphenols as cancer chemopreventive agents. *T cell Biochem*, 1995; S-22: 169-180.
- (32) Katiyar SK and Elmets CA: Green tea polyphenols skin protection and antioxidant (Review). *Int J Oncol*, 2001; 18: 1307-1313.

- 
- (33) Mukhtar H, Katiyar SK and Agarwal R: Green tea and skin anti-carcinogenic effects. *J Invest Dermatol*, 1994; 102: 3-7.
- (34) Khanpara K, Renuka V, Shukla J and Harsha CR: A Detailed Investigation of shikakai (*Acacia concinna* Linn.) fruit. *Journal of Current Pharmaceutical Research*, 2012; 9: 06-10.
- (35) Devi N, Kumar A, Garg A, Hussain A. A Review on herbal Cosmetics. *World Journal of Pharmaceutical Research*, 2018;7(8):298-310.