

ETHNOMEDICINAL, PHYTOCHEMICAL AND COSMECEUTICAL UPDATES ON BEAUTY PLANTS
FROM INDIAN ORIGIN

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Received: 19 July 2021 / Revised: 22 August 2021 / Accepted: 22 September 2021 / Available online: 30 September 2021

ABSTRACT

Herbal cosmetics are prepared from various herbs or their extracts. Since ancient period, India is a mother land of herbal cosmetics. Day-by-day, demand and use of such preparations is going on increasing across the world. Today, they are considered as invaluable gift of nature. Traditional Indian medicine system is based on incorporation of plants, parts thereof or extracts for the increasing the appearance of the peoples. Despite the availability of thousands of artificial beauty products (cosmetics), most of the peoples still believes in the use of herbal products. Indian herbal beauty products are popular in the world for their quality and safety. Herbs and spices have been used in maintaining and enhancing human beauty since time immemorial. In the present paper, we have covered the utmost information related to the potential and cosmeceutical applications of beauty plants from Indian origin.

Keywords – Herbs; Beauty; Indian; Cosmeceutical; Tulsi; Haldi; Rose.

1. INTRODUCTION

Since vedic periods, there has been strong relationship between humans and nature. Before the development of Anglo-Indian Medicine System (AIMS), peoples across the world were depends upon the products and plants obtained from the nature. In India, even today, peoples mostly from villages and tribal areas are depends on medicinal plants [1]. Plants or products thereof has become an integral part of our life. Many plants and plants product are used in daily cooking in kitchen. These plants include turmeric (*Curcuma longa*), cardamonm (*Elettaria cardamomum*), ashwagandha (*Withania somnifera*), Kadipatta (*Murraya Koenigii*), etc [2-26]. Cosmetics products are defined as any substance or preparation intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, changing their appearance and/or correcting body odors and/or protecting them or keeping them in good conditions [27-28].

Herbal Cosmetics have gained much more attention by beauticians as natural products possesses long lasting effects and wider acceptance as compare to other chemical based products. Natural herbs help in preserving and enhancing the beauty and personality of peoples especially women. Natural cosmetic is general term applied to all preparation and external conditioning and beautifying the body. Herbal Cosmetics, a natural cosmetic, are formulated using various cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide cosmetic benefits [29-30].

2. HERBAL BEAUTY PLANTS FROM INDIAN ORIGIN

As per Ayurveda, there are more than 100 plants can be used for single disease or disorder. Generally herbal extracts are primarily added to the beauty products preparations due to several associated properties such as antioxidant properties. These antioxidant botanicals are generally classified into three categories depending upon the nature of their constituents as carotenoids flavonoids and polyphenols. The carotenoids are structurally related to vitamin A and constitute various retinols like retinoic acid. Flavonoids, in addition to the antioxidant action, impart the UV protection and metal chelating properties. The polyphenolics is a large class and contains various molecules like rosmarinic acid (rosemary), hypericin (Saint John's Wort) and oleuropein (olive leaf) [31].

3. USE OF HERBAL PLANTS AND THEIR EXTRACTS

Apart from these, the herbal extracts have also been used for the topical anti-inflammatory properties. These agents block the inflammatory changes that result during the cutaneous aging and thus may be helpful in reversing the signs of ageing. Some Indian medicinal plants, which have been studied in detail for their use in cosmetics, are being discussed here for further exploration [32].

3.1. Tulsi

Tulsi (**Fig. 1**), botanical name *Ocimum tenuiflorum* (synonym *Ocimum sanctum*), commonly known as holy basil or tulsi, is an aromatic perennial plant in the family Lamiaceae. It is native to the Indian subcontinent and widespread as a cultivated plant throughout the Southeast Asian tropics. Tulsi is cultivated for religious and traditional medicine purposes, and also for its essential oil. It is widely used as a herbal tea, commonly used in Ayurveda, and has a place within the Vaishnava tradition of Hinduism, in which devotees perform worship involving holy basil plants or leaves [33].



Fig. 1: Tulsi plant.

3.1.1. Chemical constituents

Some of the phytochemical constituents of tulsi are oleanolic acid, ursolic acid, rosmarinic acid, eugenol, carvacrol, linalool, and β -caryophyllene (about 8%). Tulsi essential oil consists mostly of eugenol (~70%) β -elemene (~11.0%), β -caryophyllene (~8%), and germacrene (~2%), with the balance being made up of various trace compounds, mostly terpenes [35].

3.1.2. Advantages of tulsi in beauty products

Keeps scalp healthy, stops hair loss, eliminates dandruff, prevents premature graying of hair, anti-acne, skin cleansing, anti-aging, skin lightening and glowing, protects skin from infection, removes blackheads [36].

3.2. Korphad

Korphad (**Fig. 2**), botanical name *Aloe barbadensis miller* or *aloe vera* belongs to Asphodelaceae (Liliaceae) family, and is a shrubby or arborescent, perennial, xerophytic, succulent, pea- green color plant. It grows mainly in the dry regions of Africa, Asia, Europe

and America. In India, it is found in Rajasthan, Andhra Pradesh, Gujarat, Maharashtra and Tamil Nadu. Korphad is a succulent plant species of the genus Aloe. An evergreen perennial, it originates from the Arabian Peninsula, but grows wild in tropical, semi-tropical, and arid climates around the world [37].



Fig. 2: Korphad.

It is cultivated for agricultural and medicinal uses. The species is also used for decorative purposes and grows successfully indoors as a potted plant. It is found in many consumer products including beverages, skin lotion, cosmetics, ointments or in the form of gel for minor burns and sunburns. There is little clinical evidence for the effectiveness or safety of Aloe vera extract as a cosmetic or medicine [38].

3.2.1. Chemical constituents

Active components with its properties: Aloe vera contains 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids. Vitamins: It contains vitamins A (beta-carotene), C and E, which are antioxidants. It also contains vitamin B12, folic acid, and choline [39]. *Various contents of the plants are discussed below.*

(i) Vitamins

It contains vitamins A (beta-carotene), C and E, which are antioxidants. It also contains vitamin B12, folic acid, and choline. Antioxidant neutralizes free radicals.

(ii) Enzymes

It contains 8 enzymes: Aliase, alkaline phosphatase, amylase, brady kinase, carboxypeptidase, catalase, cellulase, lipase, and peroxidase. Brady kinase helps to reduce excessive inflammation when applied to the skin topically, while others help in the breakdown of sugars and fats.

(iii) Minerals

It provides calcium, chromium, copper, selenium, magnesium, manganese, potassium, sodium and zinc. They are essential for the proper functioning of various enzyme systems in different metabolic pathways and few are antioxidants.

(iv) Sugars

It provides monosaccharides (glucose and fructose) and polysaccharides: (glucomannans/polymannose). These are derived from the mucilage layer of the plant and are known as mucopolysaccharides. The most prominent monosaccharide is mannose-6-phosphate, and the most common polysaccharides are called glucomannans [beta-(1,4)-acetylated mannan]. Acemannan, a prominent glucomannan has also been found. Recently, a glycoprotein with antiallergic properties, called alprogen and novel anti-inflammatory compound, C-glucosyl chromone, has been isolated from Aloe vera gel.

(v) Anthraquinones

It provides 12 anthraquinones, which are phenolic compounds traditionally known as laxatives. Aloin and emodin act as analgesics, antibacterial and antivirals.

(vi) Fatty acids

It provides 4 plant steroids; cholesterol, campesterol, β -sisosterol and lupeol. All these have anti-inflammatory action and lupeol also possesses antiseptic and analgesic properties.

(vii) Hormones

Auxins and gibberellins that help in wound healing and have anti-inflammatory action.

(viii) Others

It provides 20 of the 22 human required *amino acids* and 7 of the 8 essential amino acids. It also contains salicylic acid that possesses anti-inflammatory and antibacterial properties. Lignin, an inert substance, when included in topical preparations, enhances penetrative effect of the other ingredients into the skin. Saponins that are the soapy substances form about 3% of the gel and have cleansing and antiseptic properties [39].

3.2.2. Advantages of korphad in beauty products

Helps soothe sunburn, Aloe vera gel has cooling properties and is anti-inflammatory, helps to moisturize the skin, Boosts healing of wounds, Fights skin-aging, reduces infection and acne, Lightens blemishes on the face, Aloe vera for hair and scalp [40].

3.3. Haldi

Haldi, commonly known as Turmeric (**Fig. 3**), botanical name is *Curcuma longa* (Family- Zingiberaceae) is best known as a spice used primarily in Asian cuisine, particularly curry, and in prepared mustard. It is also used in some traditional Indian communities as a topical burn treatment. Curcumin (Diferuloylmethane) is the main active component of turmeric which shows great potency against acute inflammation, and exhibits significant wound healing and antioxidant properties. The paste of turmeric powder has been used as antiseptic and for skin nourishment since centuries. Curcumin is used in skin care preparations [41].



Fig. 3: Turmeric (Haldi).

3.3.1. Chemical constituents

Turmeric powder is about 60–70% carbohydrates, 6–13% water, 6–8% protein, 5–10% fat, 3–7% dietary minerals, 3–7% essential oils, 2–7% dietary fiber, and 1–6% curcuminoids. Phytochemical components of turmeric include diarylheptanoids, a class including numerous curcuminoids, such as curcumin, demethoxycurcumin, and bisdemethoxycurcumin. Curcumin constitutes up to 3.14% of assayed commercial samples of turmeric powder (the average was 1.51%); curry powder contains much less (an average of 0.29%). Some 34 essential oils are present in turmeric, among which turmerone, germacrone, atlantone, and zingiberene are major constituent [42-43].

3.3.2. Advantages of haldi in beauty products

Turmeric contains antioxidants and anti-inflammatory components. These characteristics may provide glow and luster to the skin [44]

3.4. Kadipatta

Kadipatta (*Murraya koenigii*) (**Fig. 4**) is a tropical to sub-tropical tree in the family Rutaceae (the rue family, which includes rue, citrus, and satinwood), and is native to Asia. The plant is also sometimes called sweet neem, though *M. koenigii* is in a different family to neem, *Azadirachta indica*, which is in the related family Meliaceae. Its leaves, known as curry leaves, are used in many dishes in the Indian subcontinent [45].



Fig. 4: Kadipatta leaves

3.4.1. Chemical constituents

Compounds found in *Kadipatta* leaves, stems, bark, and seeds include cinnamaldehyde, and numerous carbazole alkaloids, including mahanimbine, girinimbine, and mahanine [46].

3.4.2. Advantages of Kadipatta in beauty products

Kadipatta is rich in carbohydrates, fiber, calcium, phosphorous, irons and vitamins like vitamin C, vitamin A, vitamin B, vitamin E, curry leaves help fight all kinds of infections, including skin infection. It is used to treat premature greying of hair, gives Soft and flawless skin, clean and dandruff-free scalp, gorgeous hair [47].

3.5. Khus

Khus (*Chrysopogon zizanioides*) (**Fig. 5**), commonly known as vetiver and khus, is a perennial bunchgrass of the family Poaceae. Vetiver is most closely related to Sorghum but shares many morphological characteristics with other fragrant grasses, such as lemongrass (*Cymbopogon citratus*), citronella (*Cymbopogon nardus*, *C. winterianus*), and palmarosa (*Cymbopogon martinii*) [48]. Khus plants or popularly known as Khus grass is widely found in plains and hilly tropical areas of India. This plant has been cultivated for more than the past 3000 years for its medicinal applications. Apart from Medicinal applications, the leaves are also used for the manufacturing of Mats, hand fans and also serve many chemical applications [49].



Fig. 5: Khus.

3.5.1. Chemical constituents

Root's oil from traditional hydrodistillation, 21 volatiles were observed with three main chemical compounds, cedr-8-en-13-ol (26.54%), β -guaiene (15.31%), and cycloisolongifolene (11.09%), which were also identified in previous reports [50].

3.5.2. Advantages of *Khus* in beauty products

From the roots, oil is extracted and used for cosmetics, aromatherapy, herbal skincare and ayurvedic soap. Vetiver has been used to produce perfumes, creams and soaps. It is used for its antiseptic properties to treat acne and sores [51].

3.6. Ashwagandha

Ashwagandha (*Withania somnifera*) (Fig. 6), known commonly as Indian ginseng, poison gooseberry, or winter cherry, is a plant in the Solanaceae or nightshade family. It is a highly lucrative medicinal herb whose application comes again from 3000 years ago and is a vital ayurvedic herb assisting natural healing. The root and berry (fruit) are the most important parts in the plant and their extracts are used in a wide range of medicinal applications [2,52].



Fig. 6: Ashwagandha.

3.6.1. Chemical constituents

The biologically active chemical constituents of the *plant* are alkaloids (isopelletierine, anaferine, cuseohygrine, anahygrine, etc.), steroidal lactones (withanolides, withaferins) and saponins. Sitoindosides and acylsterylglucosides in Ashwagandha are anti-stress agents. Active principles of Ashwagandha, for instance the sitoindosides VII-X and Withaferin-A, have been shown to have significant anti-stress activity. The aerial parts of *plant* yielded 5-dehydroxy withanolide-R and withasomniferin-A [53-54].

3.6.2. Advantages of ashwagandha in beauty products

Ashwagandha helps in the production of natural skin oils. It is also known to aid in the production of skin-enriching compounds like hyaluronan (hydration), elastin (suppleness) and collagen (strength). Ashwagandha to stimulate the scalp, improve blood circulation and fight dandruff. It is also associated with the production of melanin - the pigment slow down greying of hair and infusing it with a healthy shine [55].

3.7. Methi

Methi (Fenugreek) (Fig. 7), botanical name is *Trigonella foenum-graecum* is an annual plant in the family Fabaceae, with leaves consisting of three small obovate to oblong leaflets. It is cultivated worldwide as a semiarid crop. Its seeds and leaves are common ingredients in dishes from the Indian subcontinent, and have been used as a culinary ingredient since ancient times. Also used in traditional medicine, fenugreek can increase the risk for serious medical side effects, though its culinary use (in smaller quantities) is safe [56].



Fig. 7: Methi seeds.

Methi is not approved or recommended for clinical use by any governmental health agency. The popular herb is not only a common kitchen spice but also most commonly used in soaps and shampoos. The important parts of this plant would include leaves and seed extracts [57].

3.7.1. Chemical constituents

Methi seeds are composed of 20% to 30% protein, 45% to 60% carbohydrates (mainly the galactomannan, mucilaginous fibers in the cell walls), and 5% to 10% lipids. Other important components include pyridine-type alkaloids (mostly trigonelline), free amino acids (most notably 4-hydroxyisoleucine), saponins, and glycosides that produce upon hydrolysis steroidal saponins, such as diosgenin. Biological actions of different forms of Methi (e.g., defatted or germinated seed) were evaluated including water and organic solvent extracts predominantly from the seed powder [58].

3.7.2. Advantages of Methi in Beauty Products

Methi is low in calories, rich in protein, fiber, fat, iron, manganese, copper, magnesium, phosphorus and vitamin B6. It helps with numerous benefits for hair, skin and health. Fenugreek has anti-inflammatory and antioxidant properties that treat acne and also moisturize skin [59].

3.8. Sage

Sage (*Salvia officinalis*) (**Fig. 8**), the common sage or just sage, is a perennial, evergreen subshrub, with woody stems, grayish leaves, and blue to purplish flowers. It is a member of the mint family Lamiaceae and native to the Mediterranean region, though it has been naturalized in many places throughout the world. It has a long history of medicinal and culinary use, and in modern times it has been used as an ornamental garden plant. The common name sage is also used for closely related species and cultivars [60].



Fig. 8: Sage leaves.

3.8.1. Chemical constituents

Leaves contain total 49 constituents, representing 97.97 % of the total oil. The monoterpene fraction of the oil amounted to 75.93 % with oxygen containing monoterpenes (48.43 %). Camphor (25.14 %), α -thujone (18.83 %), 1,8-cineole (14.14 %) and β -thujone (4.46 %) are also reported in plant. Among the sesquiterpene fraction (17.4 %), sesquiterpene hydrocarbons dominated (9.33 %) with β -caryophyllene (3.30 %) as the major component while viridiflorol (7.98 %) was identified as the main constituent of sesquiterpene alcohol fraction. Other components were present at amount lower than 3 % of the total yield [61-62].

3.8.2. Advantages of sage in beauty products

It has antioxidant, antibacterial and anti-inflammatory benefits. It is beneficial for skin to control Acne as it improves blood circulation and also directs blood flow to the scalp. This aids in maintaining healthy hair [63].

3.9. Orange

The orange peel (**Fig. 9**) is the fresh or dried outer part of the pericarp of *Citrus aurantium Linn*, belonging to family Rutaceae. It is mainly cultivated in India, China, Spain, Madeira, Sicily, Malla [64].



Fig 9: Orange

3.9.1. Chemical constituents

Bitter orange peel contains of 1 to 2.5% volatile oil. The principal component of volatile oil is 90% limonene and small quantities of aldehydes citral, citronellal, bitter amorphous glycoside and its acid; hesperidin, isohesperidin, vitamin C, and Pectin [65].

3.9.2. Advantages of orange in beauty products

Oranges have a high content of citric acid which aids in skin exfoliation and helps to dry out acne, improving the overall look of skin. Vitamin C helps the body to form collagen and elastin which will keep your skin looking younger and more supple which gives you a natural shine and youthful glow [66].

3.10. Shikakai

Shikakai (**Fig. 10**) consists of the fruits of the plant (*Acacia concinna*) Linn. belongs to family Leguminosae, It is a medicinal plant that grows in tropical rainforests of southern Asia and is used for washing hair [67].



Fig 10: Shikakai

3.10.1. Chemical constituents

Alkaloids are found in the tree's fruit. In commercial extracts, when the plant is hydrolyzed it yields lupeol, spinasterol, acacic acid, lactone, and the natural sugars glucose, arabinose and rhamnose. It also contains hexacosanol, spinasterone, oxalic acid, tartaric acid, citric acid, succinic acid, ascorbic acid, and the alkaloids calyctomine and nicotine [68-69].

3.10.2. Advantages of orange in beauty products

Shikakai has been used for hair care in India for hundreds of years. The pods, leaves and the bark of the Shikakai tree is a rich source of Vitamin A, C, D, E and K. It can be used in the form of shampoo to clean hair, used in making hair oil and even as hair masks to nourish the hair and help it to grow fast [70].

3.11. Pudina

The Pudina oil is obtained by steam distillation of the fresh flowering tops of the plant *Mentha piperita* Linn (**Fig. 11**). They bloom from July through August, sprouting tiny purple flowers in whorls and terminal spikes. Peppermint is native to Europe and Asia, is naturalized to North America and grows wild in moist, temperate areas. Some varieties are indigenous to South Africa, South America and Australia [71].



Fig 11: Pudina leaves.

3.11.1. Chemical Constituents

Pudina oil contains chiefly l-menthol to the extent of 70% in free, as well as, in the form of esters. Other important constituents of the peppermint oil are menthone, menthofuran, jasmine, menthyl isovalerate, menthyl acetate and several other terpene derivatives. The other terpenes include l-limonene, isopulegone, cineole, pinene, camphene, etc. Jasmine and esters are responsible for pleasant flavor, while menthofuran causes resinification and develops dirty smell [72-73].

3.11.2. Advantages of pudina in beauty products

The goodness of menthol and strong antibacterial properties of leaves work as an excellent cleanser, astringent, toner, and moisturizer. Leaves have been a constant ingredient in several beauty and skincare products, beginning from historic periods right up to present times. Leaves are a key component in a spectrum of beauty products from face washes, shampoos, & conditioners. These bright green, aromatic leaves are used in brightens complexion, reduce dark circles, slow ageing, change skin tones and it get hydrated also treat acne [74].

3.12. Gulab

A Gulab (**Fig. 12**) is a woody perennial plant with botanical name *Rosa centifolia* belongs to the family Rosaceae. The rose is a type of flowering shrub. All roses were originally wild and they come from several parts of the world, North America, Europe, northwest Africa and many parts of Asia and Oceania. Also, roses can be used for good scent. The scent of the rose comes from tiny perfume glands on the petal. Sometimes rose petals are dried and packed so that you can use them for decoration or for scent [75].



Fig. 12: Gulab

3.12.1. Chemical constituents

The important chemical constituents isolated from flower petals are Phenyl ethanol (43%), Geranyl acetate (15.6%), Geraniol (10.5%), Linalool (6.9%), Benzyl alcohol (3.3%), Benzaldehyde (1.5%), Nerol (5-10%), Citronellyl acetate (0.3%). It also contains tannins, oligomeric proanthocyanides, saccharine matter, mineral salts, salt of mallic acid & tartaric acid, Pectin (11%), Riboflavin, sugars, purgative glycosides (multiflorin A & B) [76-77].

3.12.1. Advantages of rose in beauty products

Rose water has been used as a beauty product for improve your complexion and reduce skin redness. The antibacterial properties may help reduce acne. The anti-inflammatory properties can reduce skin redness trusted source and puffiness. Rose water is often found in beauty products aimed to reduce wrinkles also having anti-aging effects. These improve hydration, provide skin benefits, treat digestive distress, and soothe a sore throat [78].

3.13. Kalmi

Kalmi (**Fig. 13**) consist of dried bark, freed from the outer cork and from the underlying parenchyma, from the shoots growing on the cut stumps of *Cinnamomum verum* belongs to family Lauraceae [79].



Fig. 13: Kalmi

3.13.1. Chemical constituents

Kalmi bark contains polycyclic diterpenes and proanthocyanidinoid oligomers. It contains volatile oils (0.5-1 percent), phlobatannins (1.2 %), mucilage, calcium oxalate, starch and mannitol (responsible for sweetish taste). The essential oil (5-20 ml/kg) is composed of phenylpropane derivatives Kalmi oil mainly contains cinnamaldehyde (60 to 70 percent), eugenol (5 to 10 percent), benzaldehyde, cuminaldehyde and other terpenes such as phellandrene, pinene, cymene, caryophyllene [80-81].

3.13.2. Advantages of kalmi in beauty products

It has antibacterial properties and hence is a godsend for acne. It is a powerful antioxidant and thus prevents signs of ageing. It can make your skin look plumper and more even-toned. Also having anti-inflammatory properties [82].

3.14. Jaswand

Jaswand (**Fig. 14**) is a flowering plant in the *Hibiscus rosa sinensis* belongs to the family Malvaceae. It is widely cultivated in tropical and subtropical regions, but is not known in the wild, so that its native distribution is uncertain. An origin in some part of tropical Asia is likely. It is widely grown as an ornamental plant [83].



Fig 14: Jaswand flower.

3.14.1. Chemical constituents

Chemical constituents are alkaloids, L-ascorbic acid, anthocyanin, Beta-carotene, Beta-sitosterol, citric acid, polysaccharides arabins and arabinogalactans, quercetin, gossypetin and small amounts of galactose, arabinose, glucose, xylose, mannose and rhamnose [84].

3.14.2. Advantages of jaswand in beauty products

The natural acids present in jaswand help to purify your skin by breaking down dead skin and increasing cell turnover, they can even help to control acne breakouts. It also help improve the skin's elasticity and prevent early signs of ageing naturally. It is particularly known for its hair growth boosting abilities, and as such is commonly used in the form of hair oil, shampoos, conditioners and even hair masks [85].

3.15. Kaduneem

Kaduneem consists of the fresh or dried leaves and seed oil of *Azadirachta indica* (**Fig. 15**) belongs to family Meliaceae. It is found in India, Pakistan, Sri Lanka, Malaya, Indonesia, Japan, Tropical region of Australia and Africa. In India, it is found in Uttar Pradesh, Maharashtra, Tamil Nadu, Rajasthan, etc [86].



Fig 15: Kaduneem.

3.15.1. Chemical constituents

Kaduneem fruit, seeds, leaves, stems, and bark contain diverse phytochemicals, some of which were first discovered in azadirachta seed extracts, such as azadirachtin. In addition to azadirachtin and related limonoids, the seed oil contains glycerides, diverse polyphenols, nimbolide, triterpenes, and beta-sitosterol. The yellow, bitter oil has a garlic-like odor and contains about 2% of limonoid compounds. The leaves contain quercetin, catechins, carotenes, and vitamin C [87].

3.15.2. Advantages of neem in beauty products

Kaduneem leaves are a godsend ingredient and a safe home remedy for oily and acne-prone skin, reduces blemishes, soothes irritated skin, fights signs of ageing, moisturizes skin, treats dandruff and itchy scalp, promotes hair growth. The antioxidants in neem are beneficial for reducing melanin production of your skin, which helps to even out your skin tone. It also reduces the dark spots, blemishes and any kind of redness on your skin [88].

3.16. Ghodegui

Ghodegui (*Lavandula angustifolia*), formerly *L. officinalis*, is a flowering plant in the family Lamiaceae, native to the Mediterranean (Spain, France, Italy, Croatia etc.). Its common names include lavender [89].



Fig. 16: Ghodegui.

3.16.1. Chemical constituents

The main constituents of lavender are linalool, linalyl acetate, 1,8-cineole B-ocimene, terpinen-4-ol, and camphor. However, the relative level of each of these constituents varies in different species [90].

3.16.2. Advantages of ghodegui in beauty products

Ghodegui oil can benefit the skin in numerous ways. It has the ability to lessen acne, help lighten skin, and reduce wrinkles. It can even be used to treat other things, like improving hair health and digestion & reduces acne. The Lavender essential oil can clear your pores and cleanse the skin, soothes dry skin conditions, heals injuries, prevents wrinkle formation. It protects skin from free radical, promotes hair growth [91].

4. STANDARDIZATION OF BEAUTY PLANTS

Standardization of beauty plants or extracts used in cosmetics preparations is usually done by various analytical methods. These methods are not only limited to standardization of herbal drugs or extracts thereof, but can also be used for various pharmaceutical preparations and cosmetics preparations [93-112]. These methods include high performance thin layer chromatography, high performance liquid chromatography, UV-spectrophotometry, gas chromatography, etc. [92-136].

5. CONCLUSION

The knowledge of beauty herbs used by the people of seems to be well known to its culture and tradition. In the present study we identified many Indian origin beauty herbs used by the people in cosmetics and beauty treatment. The addition of these herbs in beauty treatment gives good result as it's a gift of nature which we are using from ancient time.

6. ACKNOWLEDGMENTS

We express our sincere thanks to Shri. Yogendraji Gode and Dr. Yogeshji Gode, IBSS's Dr. Rajendra Gode Institute of Pharmacy, Amravati and Dr. Rajendra Gode College of Pharmacy, Amravati.

7. DISCLOSURE OF CONFLICT OF INTEREST

The author declares no conflict of interest.

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