

A Research on Herbal Face Toner

Miss. Chhaya Vikram Maske, Miss. Dipti Pandhari Pogakwar, Prof. Nikhil
Nilkanth Jadhav

Student at Gurukrupa Institute of Pharmacy, Majalgaon

Student at Gurukrupa Institute of Pharmacy, Majalgaon

M.pharm, M.B.A., Assistant Professor, Gurukrupa Institute of Pharmacy, Majalgaon

Date of Submission: 05-06-2024

Date of Acceptance: 15-06-2024

ABSTRACT: In comparison to chemical medicines, natural therapies are more effective, safer, and have less side effects. On the global market, natural component formulations are becoming more and more prevalent. Herbal face toner enhances facial beauty and has no unfavourable effects. Cucumber, peppermint, aloe vera, honey, Vit.A.Vit.C derivatives, rose water, carbapol, twin80, humectant, emollient and moisturizers are the key components of herbal face toner. This herbal toner is used as a liquid on the skin. When their physical traits and organoleptic qualities were evaluated, the results were positive. Rehydrating skin, balancing skin pH, tightening pores, reducing irritation, and keeping skin germ-free are the goals of this herbal toner. It has the power to improve appearance while also reducing face irritation. It is useful in our hectic daily lives. The formulation showed no redness, edoema, inflammation, or irritation during irritancy experiments. So, in the current inquiry, we identified the advantageous properties of the face toner.

Key Words: Herbal, face, glow, skin, toner

I. INTRODUCTION

Herbal cosmetics for glowing skin

In earlier time, herbs were used for both medicinal purpose as well as for beautification these had been used in both forms, i.e. fresh form & dried form these can be used by mashing & directly applying to the body with or without using other ingredients. In fact in earlier times these were used this way only. But nowadays, their extracts, decoctions, infusion, tinctures, steam distillates etc, there are a few manufacturer of herbal in India. The best thing of the herbal cosmetics is that it is purely made by the herbs and shrubs and thus is side-effects free. The natural content in the herbs does not have any side effects on the human body; instead provide the body with nutrients and other useful minerals. Many people wish to have glowing

skin. Radiant skin is an external sign of health for some and a cosmetic goal for others. We have seen many having dull skin, and that hinders their self-confidence and eventually affects their physical and mental health. If your skin glows, you will feel much more confident. Many people wish to have glowing skin. Radiant skin is an external sign of health for some and a cosmetic goal for others. We have seen many having dull skin, and that hinders their self-confidence and eventually affects their physical and mental health. If your skin glows, you will feel much more confident. This is because glowing skin indicates that you are healthy and care for your face. When your complexion is less than ideal, it can hurt your self-esteem. There are numerous methods for increasing skin radiance, and people can improve their skin's health by making dietary and lifestyle changes. Also, there are many skincare and makeup products available that can give you the look of glowing skin. People interpret glowing skin differently. Many people use the term to describe skin that appears healthy and "awake" instead of dry, dull, or unevenly textured. Some people have a natural sheen or "glow" because they have healthy skin. Good skin is very important for all round sex appeal in men and women. While we pay attention to our bodies, we tend to miss out on feeding our skin and ensuring that it gets adequate care. The importance of skincare, however, cannot be overlooked, if you want all round self confidence which adds to looking sexy. As people get older their skin tends to lose the suppleness, firmness, vitality, and glow. As skin is likely to lose the firmness, suppleness, glow and vitality with age, it is very much that people do follow some easy yet effective tips for smooth and sexy skin. Adequate feeding and care needs to be given to the skin.

Advantages of herbal cosmetics

* They do not provoke allergic reaction & do not have negative side effects.

- * They are easily incorporated with skin and hair.
- * With small quantity they are very effective as compared to synthetic cosmetics.
- * Extracts of plant decreases the bulk property of cosmetics and gives appropriate pharmacological effects.
- * Easily available & found in large variety & quantity.
- * Easy to manufactures and chief in cost.

Disadvantage

- * Herbal drugs have slower effects as compared to allopathic dosage form and it requires long term therapy.
- * Difficult to hide taste & odor.
- * Manufacturing process is time consuming and complicated.
- * No pharmacopoeia defines any specific procedure or ingredients to be used in any of herbal cosmetics
- * Most of the herbal drugs are not easily available.

Toner

Toners can be an important part of a healthy skin care routine. Toners help to remove any makeup, dirt, and oil residue from your skin after you have cleansed it. There are many different types of toners, made for different types of skin. These toners can provide anti-inflammatory properties, antioxidants, and help to clear out pores. You can think of toner as a type of pre-moisturizer or pre-serum, using it on clean skin to help the skin better absorb the next product in your skin care routine. However, if you have never used toner before and have healthy skin, there is really no reason to start if your skin's pH is off due to harsh soaps and cleansers, a toner can help bring your skin back to a healthy pH level. During your skin care consultation, we can help you determine whether or not toner is a good product to add to your skin care routine.

Oily facial skin may cause skin issues in a large number of people. Typically, the skin appears greasy and dirty, and sebum is overproduced that causes several dermatological complications, including acne and seborrheic dermatitis, and also significantly affects the quality of life. There have been a vast variety of oily facial treatments including cosmeceutical products that are easy to broadly use externally. Therefore, controlling oil is an essential key to cosmeceutical product development for these circumstances.

In the past, skin toner was a typical product used as a second cleansing agent for removing residual makeup after regular facial

cleansing or used for removing excess sebum secreted from facial skin to prepare the skin before nourishing treatment. Toners may be categorized into alcohol-based or non-alcohol-based toners for various skin types such as oily skin, sensitive skin, or combination skin. Nowadays, the diversity and prevalence of the products cause skin toners to be utilized more as cosmeceutical products with several purposes; for example, rehydrating skin, balancing skin pH, tightening skin pores, relieving irritation, and also antiseptics. Significantly, because of the growing awareness and demand of natural products, plants have gradually been used much more in cosmeceutical products [8]. Hence, toners that are developed as cosmeceutical products by adding therapeutic benefits of herbal extracts from plant's leaves, twigs, bark, or fruits for controlling oiliness tend to be popular.

Effects of a toner on skin

Earlier the skin toner was a typical product used as a second cleansing agent for removing residual makeup after regular facial cleansing or used for removing excess sebum secreted from facial skin and to prepare the skin before nourishing treatment. Toners may be categorized into alcohol-based or non-alcohol-based toners for various skin types such as oily skin, sensitive skin, or combination skin. Nowadays, the diversity and prevalence of the products cause skin toners to be utilized more as cosmeceutical products with several purposes; for example, rehydrating skin, balancing skin pH, tightening skin pores, relieving irritation, and also antiseptics.

Types of Toners

1. Skin fresheners or bracers: It is a mild kind of toner. a toner that contains glycerin (a humectant) and water. The skin's surface is moisturised by humectant. The most common example of it is rosewater. It works best for skin types that are typical, dehydrated, and sensitive.

2. Skin tonics: Skin tonics are typically stronger and contain water, a humectant component, and a small amount of alcohol (up to 20%). Orange blossom water is a fantastic illustration of a skin tonic. It is okay to use skin tonics on oily skin.

3. Acid toner: These are a powerful type of toner that frequently includes alpha hydroxy acid and/or beta hydroxy acid. The most often utilised alpha hydroxy acids for exfoliating the skin's surface are glycolic, lactic, and mandelic acids. The most often

used beta hydroxy acid is salicylic acid, which is effective for exfoliating the skin's deeper layers.

4. Astringents: The strongest type of toner is an astringent, which contains a lot of alcohol (20–60%), water, antibacterial compounds, and a humectant. These can harm and irritate the skin since they employ a lot of alcohol, which can eliminate the skin's extra protective lipids.

Advantages of Skin Toner

1. The pH of the skin must be balanced in order to maintain healthy skin.
2. Herbal toners are helpful in pore-tightening.
3. It reduces the visibility of blackheads and acne.
4. It hydrates the skin can leave the skin looking smooth and moisturized.
5. Soothing the skin: Ingredients like chamomile and aloe vera, which have soothing characteristics and may soothe irritated or inflamed skin, are frequently found in herbal toners.
6. Refreshing the skin: Herbal toners can provide the skin a restoring and energizing experience, making it feel refreshed and energized.
7. Remove impurities: Herbal toners are helpful in clearing the skin of any leftover impurities, such as oil and grime, which can cause breakouts and other skin problems.
8. Enhancing absorption: Before using other skincare products, using a herbal toner can assist to improve their absorption and increase their effectiveness.

Disadvantages of skin toner:

1. The skin becomes dry and flaky when using toners that include alcohol.
2. Excessive use could irritate the skin. that is, edema and redness.

Ingredients

1. Beetroot:

Beets are native to the Mediterranean. Although the leaves have been eaten since before written history, the beetroot was generally used medicinally and did not become a popular food until French recognized their potential in the 1800's. Beet powder is used as a coloring agent for many foods. Beets were domesticated in the ancient Middle East, primarily for their greens, and were grown by the Ancient Egyptians, Greeks and Romans. Beet root originated from *Beta vulgaris* L. ssp. *maritima* by hybridization with *B. patula*. Crop has site of origin probably in Europe. Earlier types were with long roots like that of carrot. Beet root, sugar beet and palak belong to species *B. vulgaris*

and are cross compatible. The ancient Babylonians were the first to use it for various applications.

Beet root juice: It contains following constituents

Vitamins: - Beetroots are a good source of folic acid and vitamin C. It also contains small amounts of vitamins B1, B2, B3, and vitamin A in the form of beta-carotene.

Minerals: - Rich in calcium, magnesium, phosphorus, potassium, and sodium. Amino acids: - While raw beets are mostly water and carbohydrate, they also contain small amounts of all the amino acids (protein).

Calories: - One 2" (5 cm) beetroot contains 35 calories.

Antioxidants: - Its carotenoids and flavonoids can help reduce the oxidation of LDL cholesterol which could lead to damaged artery walls and ultimately heart attacks and strokes.

Anti-carcinogenic color: - The deep red color of beetroot comes from betacyanin. This prevents from colon cancer.

Silica: - The rich stock of silica in it does perfect utilization of calcium in the body and is also required for healthy skin, hair, nails and bones



Synonym-Chard, European sugar beet, red garden beet, Harvard beet, blood turnip, maangelwurz, mangel, and spinach beet.

Biological source- It is obtained from *Beta vulgaris* subsp. *Vulgaris conditiva*

Family-Amaranthaceae

Chemical constituent-betalains, ascorbic acid, carotenoids, polyphenols, flavonoids, saponins, and high levels of nitrate glycerin, betanin, and folic acid.

Uses-

- a. stimulate collagen synthesis.
- b. improving skin elasticity and reducing the appearance of fine lines and wrinkles.
- c. Beetroot's detoxifying properties help eliminate toxins from the skin, promoting a clearer complexion and preventing breakouts.

2. Flaxseed:

Flaxseed consists of Omega-3 fatty acids play an important role in skin physiology, and it has been shown that flaxseed oil supplementation can significantly improve skin condition. In the study by Neukam et al., participants were divided into two groups. The first group received four capsules of flaxseed oil (555.32 mg/capsule) and the second group received four capsules of safflower oil (560 mg/capsule) for 12 weeks. Plasma polyunsaturated fatty acids, skin sensitivity, skin hydration, and transepidermal water loss were evaluated at the baseline and at Weeks 6 and 12. Supplementation with flaxseed oil led to significant decreases in sensitivity, skin roughness, scaling, and transepidermal water loss, while epidermal hydration and



Synonym – Linseed , Flax-seed , Flax , Oil-rich seed , Oilseed

Biological source - Flax consists of the strands of pericyclic fibres of the stem of **Linum usitatissimum** Linn.

Family -Linaceae

Chemical constituents - It is naturally enriched with alpha-linolenic acid, omega-3 fatty acid, lignin, secoisolariciresinol diglucoside,



Uses -

- Flaxseed omega-3 fatty acids may improve wound healing.
- Supplementation with 1000 mg omega-3 fatty acids from flaxseed oil supplements twice a day for 12 weeks was shown to significantly reduce the length and depth of ulcers in patients with diabetic foot syndrome compared to the control group

3 Rose Water:

Rose water is extracted by distilling rose petals with steam. Rose water is fragrant, and it's sometimes used as a mild natural fragrance as an alternative to chemical-filled perfumes. It's been used traditionally in both beauty products and food and drink products. It also comes with plenty of potential health benefits. It has been used for thousands of years, including in the Middle Ages.

Medicinal importance

- Anti-Inflammatory Action.
- Moisturizing and Anti-Aging Agent.
- Cosmetic & Skin Protection Application.
- Astringent effect on skin pores.
- Skin whitening Agent



Synonym :Rosa alba L

BotanicalName :Rosa Damascena Mill L.

Family:Rosaceae

Genus:Rosa L.

Chemical constituents :Major rose components Citronellol 20–34% Geraniol 15–22% Nonadecane 8–15% Minor rose components

Uses:

- Rose Water Can Help Reduce Skin Redness.

- a.b. Prevent Additional Swelling, And Soothe The Discomfort Of Acne.
- b.c. In medieval Europe, rose water was used to wash hands at a meal table during feasts.
- e.d. Rose water is a usual component of perfume. Rose water ointment is occasionally used as an emollient, and rose water is sometimes used in cosmetics such as cold creams, toners and face wash.
- ⊕.e. Some people in India also use rose water as a spray applied directly to the face as a perfume and moisturiser, especially during the winter; ~~it is often sprinkled in Indian weddings to welcome guests.~~

4. Honey :

Honey is a mixture of carbohydrates, proteins, amino acids, vitamins, minerals, antioxidants and other compounds. It consists number of enzymes, including invertase, glucose oxidase, catalase, and acid phosphorylase. Honey also contains eighteen free amino acids, in which the most abundant is proline. The main group of antioxidants in honey are the Flavonoids, of which, pinocembrin is unique to honey and bee propolis. Naturally darker honey has greater antioxidant properties in it. Acetic, butanoic, formic, citric, succinic, lactic, malic, pyroglutamic, gluconic acids, and a number of aromatic acids are found in honey. Bee's honey is almost free of cholesterol.

It also contains trace amounts of the vitamins B2, B4, B5, B6, B11 and vitamin C. Also. Minerals like calcium, iron, zinc, potassium, phosphorous, magnesium, selenium, chromium and manganese are found in honey.



Synonym-Madhu, Honey purified, Mel

Biological source- It is obtained from Sugar secretion deposited in honey comb by the bees, *Apis mellifera*

Family-Apidae

Chemical constituent-honey contains a large amount of carbohydrates about 80% (about 32.3% glucose and 38.6% fructose) and more than four hundred different minor substances such as aroma

constituents, enzymes and proteins (about 0.2%), minerals (about 0.1%), vitamins, organic acids, pigments, and waxes.

Uses-

- a. Use as a natural sweetener.
- b. Honey is used as an anti-inflammatory.
- c. Antioxidant and antibacterial agent.
- d. People commonly use honey orally to treat coughs and topically to treat burns and promote wound healing.

5. Peppermint oil :

Peppermint (*Mentha piperita* L.), is a medicinal plant that has received more attention from both food and pharmaceutical industries because of its health benefits for human society. Herein, the chemical structure of peppermint compounds evaluated using theoretical studies. Indeed, the health benefits of peppermint were reviewed. Our molecular docking showed that among peppermint compounds, cineol and menthyl acetate apparently bound to the active site of arylamine N-acetyltransferase enzyme

Adding peppermint oil to any skincare formula help your skin feel refreshed and energized.

- 1) Reduces Acne.
- 2) Cools skin and scalp
- 3) Kills bacteria and odor
- 4) Reduces sebum
- 6) Astringent: Peppermint oil has natural astringent properties. It improves the appearance of pores by tightening skin cells. It also prevents pores from becoming clogged or clogged.

Components of Peppermint Oil: Menthone and menthol are the two main chemical constituents of peppermint oil.



Synonym-*Mentha x piperita* (Latin name)

Biological source-It is the oil obtained by the distillation of *Mentha piperita*,

Family: Labiatae.

The essential oil also contains menthone and carboxyl esters, particularly acetate. Biological source- It is the oil obtained by the distillation of Mentha piperita, belonging to family Labiatae.

Chemical constituents- Peppermint has a high menthol content. Peppermint has a high menthol content. The essential oil also contains menthone and carboxyl esters, particularly menthyl acetate. Dried peppermint typically has 0.3–0.4% of volatile oil containing menthol (7–48%), menthone (20–46%), menthyl acetate (3–10%), menthofuran (1–17%), and 1,8- cineol (3–6%). Peppermint oil also contains small amounts of many additional compounds, including limonene, pulegone, caryophyllene, and pinene.

Peppermint contains terpenoids and flavonoids such as eriocitrin, hesperidin, and kaempferol 7-O-rutinoside.

Uses-

- a remedy for a variety of conditions, including irritable bowel syndrome (IBS), nausea, and other digestive issues, as well as the common cold and headache.
- a topical application for relief from itching, muscle pain, and headache
- a flavoring agent in foods and products such as mouthwashes
- a fresh, pleasing scent added to soaps and cosmetic products

6. vitamin E :

Vitamin E is a group of eight fat soluble compounds that include four tocopherols and four tocotrienols. Vitamin E deficiency, which is rare and usually due to an underlying problem with digesting dietary fat rather than from a diet low in vitamin E, can cause nerve problems. Vitamin E is a fat-soluble antioxidant which may help protect cell membranes from reactive oxygen species. Vitamin E is a fat-soluble vitamin, discovered in 1922. Vitamin E could prevent several health problems.

Vitamin E functional products have been developed in the food industry. Microencapsulation allows the protection of vitamin E, and its controlled delivery.

Vitamin E have caught the attention of the scientific community.



Synonym – tocopherol

Biological source– They are obtained from the plant – derived oils and the green parts of plants

Chemical constituents– It consists of chromanol ring with a side chain located at the C2 position and includes **four tocopherols and four tocotrienols.**

Uses–

- Moisturizing skin
- Wound healing
- Skin cancer prevention
- Reducing skin itching

Formulation-

Ingredients	Quantity
Beetroot extract	8ml
Rose water	15ml
Vitamin E	1ml
Honey	1ml
Flaxseed	8ml
Preservative	1g
Peppermint oil	1ml
Total	35ml

Methods–

A. Extraction of Beetroot by Soxhlet method : Decoction

- Soxhlet is a method of extraction by boiling herbal material to dissolve the chemicals of the material
- Take 7ml beetroot extract of in beaker.
- Add Rose water in it
- Heat the mixture
- Then filter the extract

- The obtained extract evaporates till the product can occur. The obtained extract evaporates till the Semi solid product can occur.
- This extract further uses for the preparation of herbal face toner. This semisolid extract further uses for the preparation of herbal face toner.

B. Preparation of final spray:

The extracts which were prepared from the crude drugs used like beetroot extract and flaxseed were mixed together and agitated in a proper way to form uniform mixture. The extracts which were prepared from the crude drugs (convolvulus prostrates) used like beetroot extract and flaxseed were mixed together and agitated in a proper way to form uniform mixture.

Now the rose water was added as a vehicle as well as flavouring agent in the mixture to impart pleasant and mixed. Now the rose water was added as a vehicle as well as flavouring agent in the mixture to impart pleasant smell and mixed.

Once the homogenous mixture is formed, Now the formulation was filled in the spray bottle and stability was checked for a specified time.

Container and Storage :

To be stored in a well-closed spray container at room temperature.

Direction to use:

1. Spray some toner on your clean face or hands.
2. Allow the spray some time to remain as it is on the face or surface of hands.
3. Keep it for 10-20 min. Wipe out the spray with soft cotton or cloth if required.
4. Use the toner twice a day for better skin rejuvenating results

Evaluation of Herbal Toner :

1. Organoleptic Test: This test was used to evaluate organoleptic characteristics like colour, odour, appearance. This can be done by physical examination.

2. pH: The 25 mL formulation was put in a beaker with graduations, the pH metre was calibrated, and the measurement was obtained after a length of time.

3. Surface tension: The stalagmometer received the formulation, and the surface tension was measured.

4. Temperature variation: To test the stability, the formulation was subjected to two distinct temperatures for three months: 45° C and -10° C.

5. Light exposure testing: To check for product discolouration, the product is left in its actual packaging in a light chamber or under direct sunlight for 48 hours.

6. Skin irritation: A small amount of the toner was sprayed on the dorsum of the left hand and left there for a while; the results showed that the skin was not irritated.

7. Stickiness: It was discovered that the particles were not particularly sticky.

8. Skin conditioning: After spraying the toner over the skin, it appeared to be moisturised, supple, and smooth.

9. Spreadability: The toner was sprayed onto the hand and spread effortlessly with cotton and a smooth cloth.

10. Removal: The face toner is easily removable.

11. After Feel: After applying the herbal gel toner on skin, the properties like emollient nature, slipperiness and the amount of gel left after application was noted.

II. CONCLUSION

From the above studies, it is clear that the herbal gel toner prepared is effective for the smoothening, calming, astringent, refreshing, glowing and rejuvenating effect on the skin. It is non-irritable and can be used on daily bases for enhancing the natural beauty of human skin. The formulation was also found to possess significant antioxidant activity which may contribute to its sunscreen activity. In addition to the above-mentioned parameters the toner was found to have good homogeneity along with good spreadability and pH in the range of skin. Thus, the herbal toner can be used topically for improving the health and rejuvenation of the dried and pale skin. It was also found that the ingredients like cucumber and Aloe vera gave the best results for hydration and acne like face problems.

REFERENCES

- [1]. Manikandan palanivelu et.al, A Review on Herbal Cosmetic for Skin Care, International journal of pharmaceutical science review and research, 15-02-2022. DoI: 10.47583/ijpsrr.2022.v72i02.024.
- [2]. Hani Yousef et.al, Anatomy, Skin (Integument), Epidermis, National library of medicine national center for biotechnology information, <https://www.ncbi.nlm.nih.gov/books/NBK470464/>.

- [3]. Wilfredo Lopez Ojeda et.al, Anatomy, Skin (Integument), National library of medicine national centre for biotechnology information, <https://www.ncbi.nlm.nih.gov/books/NBK441980/>.
- [4]. M. Surya et.al, A Review on Recent Scenario of Cosmetic, International journal of pharmaceutical science review and research, 15-005-2021, DOI:10.47583/ijpsrr.v68i01.030.
- [5]. M.S. Ashawat et.al, Herbal cosmetics: "Trends in skin care formulation".
- [6]. Heyam Saad Ali, et.al, Cosmetic and beauty product review, ACTA scientific pharmaceutical sciences, June30,2020.
- [7]. Monali Parbhane, et.al, Formulation and evaluation of herbal toner, World journal of pharmacy and pharmaceutical sciences, Miss Purva s rajdev, et.al, formulation and evaluation of face serum, international journal of advanced research in science, communication and technology, DOI:10.48175/ijarsct-4807.
- [9]. Ishwar Chandra chaurasiya, et.al, a review on lipstick product "lipstick", international journal of creative research thought.
- [10]. Krishna dev, et.al, a comprehensive review on skincare cosmeceuticals, ACTA scientific pharmaceutical sciences, December 16, 2021.
- [11]. Chopade B. L, et.al, formulation and evaluation of herbal eye mascara, international journal of innovative science and research technology.
- [12]. G. Arvind Kumar et.al, Raghavendra Institute of Pharmaceutical Education and Research(RIPER)-Autonomous JNT University Anantapur, Skin Care Slide share a Scribed company, Jun. 30, 2021, <https://www.slideshare.net/RIPERAutonomous/skincreams-249549273>.
- [13]. Chauhan Lalita, et.al, creams: a review on classification preparation method evaluation and its application, journal of drug delivery and therapeutics, 15 oct2020, <http://dx.doi.org/10.22270/jddt.v10i5-s.4430>.
- [14]. Chandrashekher B. badwaik, et.al, Formulation and Evaluation of Herbal face cream, International journal of pharmaceutical research and application.
- [15]. Larsson SC, Bergkvist L, Näslund I, Rutegård J, Wolk A. Vitamin A, retinol, and carotenoids and the risk of gastric cancer: a prospective cohort study. *Am. J. Clin. Nutr.* 2007; 85(2): 497–503.0
- [16]. Sweet almond [online], Available from: http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=403
- [17]. Almond [online], Available from: <http://en.wikipedia.org/wiki/Almond>.
- [18]. Gupta S, Pandit KR. In; Concepts of Pharmaceutical Dosage Form, 9th Edn., B.S. Shah Publication, Delhi, 1997; 155-156.
- [19]. Draelos ZD. Astringents, Masks, and Ancillary Skin Care Products. In *Textbook of Cosmetic Dermatology*, 5thed.; Baran R, Maibach HI, Eds.; CRC Press: Boca Raton, FL, USA, 2017; 178–181.
- [20]. Pandey S, Meshya N, Viral D. Herbs play an important role in the field of cosmetics, *International Journal of Pharm Tech Research*, 2010; 2:632-639
- [21]. Gediya SK, Mistry RB, Patel UK, Blessy M, Jain HN Herbal plants: used as cosmetics, *I Nat Prod Plant Resour*, 2011, 1: 24-32.
- [22]. Saha R., Cosmetics and Herbal drugs: practical uses, *International journal of pharmaceutical Research and science*, 2012, 3: 59-65
- [23]. Sharma HD, Paramesh R. Trends in aging and skin care: Ayurvedic concepts, *Journal of Ayurveda and integrative Medicine*, 2010; 1: 110-113.
- [24]. Akinyele SO, Odiyi AC, Comparative study of the vegetative morphology and the existing taxonomic status of Aloe vera, *Journal of plant sciences*, 2007; 2: 558-563.
- [25]. Thomson Healthcare (2007). *PDR for Herbal Medicines* (4th ed.). Thomson. p. 640. ISBN 978-1-56363-678-3.
- [26]. Leung, A. Y. (1980). *Encyclopedia of Common Natural Ingredients used in food, drugs and cosmetics*. New York: John Wiley & Sons. p. 231. ISBN 9780471049548.
- [27]. Dolzhenko, Yuliya; Berteau, Cinzia M.; Occhipinti, Andrea; Bossi, Simone; Maffei, Massimo E. (2010). "UV-B modulates the interplay between terpenoids and flavonoids in peppermint



- (*Mentha × piperita* L.)". Journal of Photochemistry and Photobiology B: Biology. **100** (2): 67–75. doi:10.1016/j.jphotobiol.2010.05.003. [hdl:2318/77560](https://doi.org/10.1016/j.jphotobiol.2010.05.003). PMID 20627615
- [28]. [What are the uses of peppermint oil? - Search \(bing.com\)](#)
- [29]. Neukam K., De Spirt S., Stahl W., Bejot M., Maurette J.M., Tronnier H., Heinrich U. Supplementation of flaxseed oil diminishes skin sensitivity and improves skin barrier function and condition. *Skin Pharmacol. Physiol.* 2011;24:67–74. doi: 10.1159/000321442. [PubMed] [CrossRef] [Google Scholar]