



ISSN Print: 2664-7222
ISSN Online: 2664-7230
IJPPS 2025; 7(2): 323-327
www.pharmacyjournal.org
Received: 02-7-2025
Accepted: 05-08-2025

E Naga Deepthi
M. Pharm (Ph. D.), Associate
Professor, Department of
Pharmaceutical Analysis, Dr.
K.V. Subba Reddy Institute of
Pharmacy, Dupadu, Kurnool,
Andhra Pradesh, India

Boya Deepika
Student, Dr. K.V. Subba
Reddy Institute of Pharmacy,
Dupadu, Kurnool-518218,
Andhra Pradesh, India

Corresponding Author:
E Naga Deepthi
M. Pharm (Ph. D.), Associate
Professor, Department of
Pharmaceutical Analysis, Dr.
K.V. Subba Reddy Institute of
Pharmacy, Dupadu, Kurnool,
Andhra Pradesh, India

Herbal cosmetics and it's applications

E Naga Deepthi and Boya Deepika

DOI: <https://www.doi.org/10.33545/26647222.2025.v7.i2d.225>

Abstract

Herbal cosmetics are beauty and personal care products made using natural plant extracts, valued for their safety, effectiveness, and minimal side effects compared to synthetic alternatives. Increasing consumer preference for these products is driven by rising awareness of the potential adverse effects of chemical-based cosmetics and a desire for sustainable, eco-friendly choices. Herbal cosmetics offer various benefits for skin, hair, nails, and oral care due to their antioxidant, anti-inflammatory, and antimicrobial properties, incorporating common ingredients like Aloe vera, Neem, Turmeric, and Sandalwood. Although the industry faces challenges in standardization and quality control, ongoing research and modern formulation techniques promise continued innovation and growth in the market for natural, effective, and safer cosmetic solutions. This article explores the pharmacogenomic basis of herbal cosmetics, emphasizing the role of standardized extracts, formulation techniques and spectrophotometry analysis in ensuring product efficacy and safety.

Keywords: Herbal cosmetics, Herbal beauty products, Herbal skin care, Herbal hair care, Herbal oil, Herbal creams, Herbal lotions, Herbal extracts, Cosmeceuticals, Anti- ageing, Anti-inflammatory

Introduction

Herbal cosmetics, deriving from the Greek term for organization and embellishment, are made from various herbs and include products for hair care (shampoos, dyes, oils), skincare (lotions, washes, toners, face packs), oral care (toothpastes, toothpowders), nail care (nail treatments), and eye care (kajal, eye drops). They leverage plant-based ingredients for therapeutic benefits and enhance appearance while reducing side effects commonly linked to synthetic cosmetics. As awareness of chemical products' adverse effects grows, consumers are shifting towards herbal alternatives, which are viewed as safer, more eco-friendly, and sustainable.

The global demand for herbal cosmetics is rising due to health consciousness, environmental concerns, and a quest for holistic wellness. Traditional medicine systems like Ayurveda and TCM have historically used herbs for skincare, supporting their effectiveness. Commonly used herbs in cosmetics include Aloe vera, Neem, Turmeric, Sandalwood, and Tulasi, recognized for their anti-inflammatory, antimicrobial, and antioxidant benefits. The herbal cosmetic industry is evolving due to advancements in extraction technologies and quality control, aligning with modern consumer expectations for safety, efficacy, and aesthetic appeal. Increased research into plant-based compounds enhances the discovery of novel, bioactive herbal ingredients for cosmetic use ^[1,2,3].

Historical Background

The science of cosmetology has ancient roots in India and Egypt, demonstrating sophisticated ideas about self-beautification for both genders. Cosmetics were used to enhance personality, achieve merit ("Punya"), ensure longevity and health ("Aayush" and "Aarogyam"), and attain happiness ("Aanandham"). Historical references, such as Draupadi in the Mahabharata, highlight the existence of vanity cases like the Prasadhana Petika for cosmetic items. Seasonal variations in cosmetic applications are noted, with distinct formulations recommended for each season as outlined in the ancient Ayurvedic text ASHTANGA HRIDAYA, which offers six unique formulations for differing seasonal needs ^[4,5].

Materials

- Aloe vera
- Amla
- Basil
- Gum resin
- Henna
- Honey
- Kaolin
- Lavender
- Lemon
- Mint
- Myrrh
- Orange peel
- Peppermint oil
- Rose oil
- Sesame oil
- Turmeric
- Vinegar
- Witch hazel
- Yarrow zinc oxide
- Sunflower oil^[6]

Herbs used in Skin Care^[7]

- Coconut oil (fig 1)
- Aloe vera
- Sunflower oil
- Green tea
- Multanimitts
- Chandan
- Citrus peel
- Neem

**Fig 1:** Coconut oil**Herbs used in Hair Care^[8]**

- Soapnut
- Amla
- Almond oil
- Castor oil
- Eucalyptus oil
- Citronella oil (fig 2)
- Hibiscus

**Fig 2:** Citronella oil**Herbs used in Oral Care^[9]**

- Neem oil
- Clove oil
- Tea tree oil
- Sage
- Chamomile
- Calendula
- Mint
- Tulasi
- Miswak

Herbs used in Nail Care^[10]

- Horsetail herb
- Stinging nettle
- Burdock root
- Lavender
- Lemon
- Rosemary oil
- Frankincense
- Geranium oil
- Myrrh
- Teatree oil

Herbs used in Eye Care^[11]

- Bilberry
- Jujube
- Eye bright
- Ginkgo
- Cinnamon
- Coleus
- Passion flower
- Lycium berry
- Cannabis
- Hydratis canadensis

Herbal Dosage Forms used for Skin Care^[12]

- Herbal creams
Ex: Neem cream and aloe vera moisturizing cream
- Herbal ointments
Ex: Arnica and calendula ointments
- Herbal pastes
Ex: Neem leaf and sandalwood paste

- Herbal oils
Ex: Coconut oil and Brahmi oil
- Herbal lotions
Ex: Cucumber lotion and Witch hazel lotion

Herbal Dosage Forms used for Hair Care^[13]

- Herbal hair oil
Ex: Sesame oil and Bhringraj oil
- Herbal shampoo
Ex: Shikakai and amla shampoo
- Herbal conditioner
Ex: Fenugreek and hibiscus
- Herbal lotion
Ex: Aloe vera and neem lotion

- Herbal hair dye
- Ex:** Henna, Indigo and amla

Herbal Dosage Forms used for oral Care ^[14]

- Herbal mouth washes
- Ex:** Neem mouthwash and tea tree oil

- Herbal toothpastes
- Ex:** Eucalyptus and miswak extracts toothpastes

- Herbal gels
- Ex:** Aloe vera and calendula gel

- Herbal lozenges
- Ex:** Clove lozenges

Herbal Dosage forms used for Nail Care ^[15]

- Herbal nail lacquer
- Ex:** Zoya professional lacquer

- Herbal nail polish
- Ex:** Pacifica plant magic nailpolish

- Herbal nail oils
- Ex:** Cinnamon oil, clove oil

Herbal Dosage forms used for Eye Care ^[16]

- Herbal eye drops
- Ex:** Poly herbal eye drops

- Herbal eye ointments
- Ex:** Calendula ointment

- Herbal solutions and Infusions
- Ex:** Eye bright tea and chamomile infusion

- Herbal gels
- Ex:** Aloe vera gel

Methods of Preparation

Skin Care

Sandalwood Astringent Lotion Process:

Table 1: Mix all these ingredients well. Keep it under refrigeration so that you can preserve it for month ^[10]

Ingredients	Quantity
Sandalwood oil	8 tbsp.
Sodium bicarbonate	5 gm.
Almond oil	2 tsp.
Rose water	4 tbsp.
Orange flower extract	4 tbsp.
Honey	1 tbsp.

Methods of preparation of Toothpaste

Trituration method

The liquid phase, which contains humectants, oils, and other substances, is combined with the binder after it has been premixed with solid abrasive and triturate. Next, fill a mixer with sweetness and preservative. After formation of homogeneous paste, the flavor and the detergent added last under slow speed agitation to minimize foaming, mixed, milled deaired and tubed.

Table 2: Formulation table ^[17]

Ingredients(gm)	Quantity (W/W) %	Role
Guar gum	0.5	Laxative
Tulsi leaves oil	0.8	Prevent bad breath
Clove oil	0.2	Antibacterial
Neem leaves oil	0.2	Antibacterial
Sodium chloride	2	Anti Cavities
Calcium carbonate	50	Abrasive
Xylitol	0.2	Anti-tooth decay
Methyl Paraben	0.2	Preservative
Menthol	0.1	Cooling agent
Titanium dioxide	0.5	Whitening agent
Sodium Lauryl sulphate	2.5	Detergent
Glycerine	30	Humectant
Amaranth solution	0.1	Colouring agent
Water q.s	100	Vehicle

Preparation of CMC Eye Ointment

The preparation of CMC eye ointment discussed the several steps as procedure for the preparation as below following:

- Weigh Ingredients:** Measure each ingredient as specified in Table to prepare a 20 gram batch of eye ointment.
- Sterilise:** To sterilise, put all materials in a hot air oven set to 160 °C for two hours.
- Melt Base:** Fill a China dish with lanolin and petroleum jelly. Heat over a water bath while stirring continuously until melted and well-mixed.
- Add Mineral Oil:** Stir continuously while gradually adding mineral oil to the melted base.
- Add CMC:** To guarantee equal dispersion, gradually add CMC to the mixture while stirring well.
- Cool and Homogenize:** Continue stirring as the mixture cools to form a smooth, semi-solid ointment.
- Complete and Assess:** The ointment is prepared for assessment in accordance with the monograph's requirements after it is homogeneous.

Table 3: List of ingredients with uses and quantity ^[18]

S.NO	Ingredients	Use/Application	Quantity
1.	Carboxy methyl cellulose (CMC)	API/Drug	0.5gm
2.	White Petrolatum	Ointment Base	18gm
3.	Lanolin	Ointment Base	1gm
4.	Mineral oil	Moisturizer	0.5ml
5.	Methyl paraben	Preservative	0.2mg

Table 4: Applications of Herbs in Skin Care

Product Type	Herbal Ingredients	Applications/Benefits
Face creams & lotions	Aloe vera, Turmeric, Sandalwood, Neem	Moisturize, reduce acne, prevent pigmentation, and promote skin glow.
Anti-aging creams	Ginseng, Ashwagandha, Green tea, Gotu kola	Reduce wrinkles, improve skin elasticity, and fight oxidative stress.
Sunscreens	Aloe vera, Cucumber, Green tea, Liquorice	Provide natural UV protection and soothe sunburn.
Face packs & masks	Multani mitti, Tulsi, Rose, Turmeric	Deep cleanse pores, remove oil, and rejuvenate skin.
Skin whitening & brightening creams	Liquorice, Saffron, Lemon, Papaya extract	Lighten complexion and reduce dark spots.

Table 5: Applications of Herbs in Hair Care

Product Type	Herbal Ingredients	Applications/Benefits
Hair oils	Amla, Bhringraj, Brahmi, Coconut oil, Hibiscus	Strengthen roots, prevent hair fall, and enhance shine.
Shampoos	Shikakai, Reetha, Aloe vera, Neem	Cleanse scalp naturally and control dandruff.
Hair conditioners	Henna, Hibiscus, Aloe vera, Fenugreek	Soften and smoothen hair strands.
Hair dyes	Henna, Indigo, Coffee, Beetroot	Provide natural colouring and condition effects.

Table 6: Application of Herbs in Oral Care

Product Type	Herbal Ingredients	Applications/Benefits
Toothpaste & powders	Neem, Clove, Peppermint, Miswak	Antibacterial, anti-inflammatory, and refreshing action.
Mouthwash	Tulsi, Eucalyptus, Fennel	Reduces oral bacteria, prevents bad breath, and heals ulcers.

Advantages of Herbal Cosmetics in Our Daily Life

- 1) Reduced Risk of Side Effects
- 2) Multifunctional Therapeutic Properties
- 3) Sustainable and Eco-Friendly
- 4) Cultural and Historical Relevance
- 5) Holistic Skin and Hair Care
- 6) Growing Market and Consumer Trust
- 7) Free from Harmful Chemicals
- 8) Safe for Sensitive Skin
- 9) Rich Nutrient Profile
- 10) Long-Term Benefits

Review of Literature

1. In 2018 Siri Sindhura D. K.: Herbal cosmetics, derived from phytochemicals in botanical sources, support skin and hair health but face major challenges such as lack of standardization, quality control, safety, and efficacy data. This review highlights regulatory issues, irrational formulation practices, and the need for global harmonization to strengthen their acceptance and business potential worldwide.

2. In 2024 Himeshwer Sen: The article highlights the significance of maintaining a healthy scalp and the impact of factors like hormones, age, and lifestyle on hair health. It discusses the use of herbal ingredients such as amla, hibiscus, brahmi, neem, and saw palmetto in treating hair disorders. These natural components are used in various hair care products to promote growth and improve hair condition.

3. In 2015 Roopali Gupta: Ayurvedic medicine, originating in India, is one of the oldest healing systems using plants for oral and overall health. Studies from 2013-2014 revealed herbal remedies significantly aid in treating oral diseases. Herbal extracts work by interacting with specific chemical receptors in the body.

4. In 2016 Nagendrababu: Complete removal of microbial biofilms and the smear layer is essential in endodontic therapy. Conventional chemical irrigants, though effective, can harm dental and periradicular tissues. Recent research focuses on natural alternatives for safer root canal disinfection. This article reviews various herbal agents used as irrigants and intracanal medicaments to achieve these goals.

5. In 2024 Raj Kumar Mandal: Eye ointments are semi-solid preparations that deliver medication directly to the eye for prolonged action. They use bases like petrolatum or mineral oil to ensure sustained drug release. Their thick consistency allows longer contact with the ocular surface.

Carboxymethyl cellulose (CMC) acts as a lubricant, enhancing viscosity, moisture retention, and comfort.

Conclusion

Botanicals have historically been used for disease prevention and health improvement. Recent advancements allow the exploration of bioactive compounds in drug discovery, yet herbal toxicity remains a concern, often arising from excessive use, misidentification of species, dosing errors, contamination, and inadequate regulation. Drug-herb interactions can lead to poisoning, making it advisable to avoid concurrent use of pharmaceuticals and herbal remedies. Increasing awareness of herb toxicity is crucial for public safety, emphasizing that not all herbal compounds are entirely safe. Research should focus on understanding the mechanisms behind liver damage from herbs, as current literature indicates that such toxicity is often idiosyncratic. Additionally, there is a need for more human clinical trials, better regulatory frameworks, and improved pharmacovigilance for herbal products.

References

1. Sumit K, Vivek S, Sujata S, Ashish B. Herbal cosmetics: used for skin and hair. *Inven J.* 2012;2012:1-7.
2. Aburjai T, Natsheh FM. Plants used in cosmetics. *Phytother Res.* 2003;17(9):987-1000.
3. Burlando B, Verotta L, Cornara L, Bottini-Massa E. Herbal principles in cosmetics: properties and mechanisms of action. CRC Press; 2010.
4. Lal BB. The Saraswati flows on: the continuity of Indian culture.
5. Mahabharata (Critical Edition). Pune: Bhandarkar Oriental Research Institute; Viratparva, Chap. 3:17, 8:16, Aadiparva, Chap. 213:44.
6. Herbal cosmetics [Internet]. Available from: <https://www.slideshare.net/rahimbrave/herbalcosmetics-6981171>
7. Afsar Z. Textbook of essentials of herbal drug technology.
8. Itami S, Kurata S, Sonoda T, Takayasu S. Characterization of 5-alpha reductase in cultured human dermal papilla cells from beard and occipital scalp hair. *J Invest Dermatol.* 1991;96(1):57-60.
9. Gupta R, Ingle NA, Kaur N, Yadav P, Ingle E, Charania Z. Ayurveda in dentistry: a review. *J Int Oral Health.* 2015;7:141-143.
10. Essential oils and carrier oils for healthy and strong nails [Internet]. Available from: <https://www.newdirectionsaromatics.com/blog/essential-oils-and-carrier-oils-for-healthy-and-strong-nails/>

11. Herbs to help support healthy eyesight and protect against screen fatigue [Internet]. Available from: <https://www.gaiaherbs.com/blogs/seeds-ofknowledge/herbs-to-help-support-healthy-eyesight-and-protect-against-screen-fatigue>
12. Kumar D, Rajora G, Parkash O, *et al.* Herbal cosmetics: an overview. *Int J Adv Sci Res.* 2016;1(4):36-41.
13. Patani P, Varghese D, Balekar N, Jain DK. Detailing and assessment of home-grown hair oil for alopecia management. *Planta Indica.* 2006;2(3):27-30.
14. Venkateshbabu N, Anand S, Abarajithan M, Sheriff SO, Jacob PS, Sonia N. Natural therapeutic options in endodontics: a review. *Open Dent J.* 2016;10:214-226.
15. Suryawanshi UC, *et al.* Formulation and evaluation of nail lacquer of clotrimazole for treatment of onychomycosis. *IJPPR Human.* 2020;18(1):735-774.
16. Topical drug dosage forms for eye conditions [Internet]. Available from: <https://www.pharmaceutical-journal.com/article/ld/topical-drug-dosage-forms-for-eye-conditions>
17. Jagtap AM, Kaulage SR, Kanse SS, Shelke VD, Gavade AS, Vambhurkar GB, Todkar RR, Dange VN. Preparation and evaluation of toothpaste. *Asian J Pharm Anal.* 2018;8(4):191-194. doi:10.5958/2231-5675.2018.00035.
18. Mandal RK, Pal R. Preparation and evaluation parameters of CMC eye ointment. 2024 Nov. doi:[pending full DOI].