



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

SJIF Impact Factor: 7.187

Available online at: <http://www.iajps.com>

Review Article

OVERVIEW OF HAIR COSMETICS

Ajay.R.Laware¹, Ajay.R.Zagade², Vinayak.A.Katekar³, Swati.P.Deshmukh⁴^{1,2}Department of Pharmacy, Shraddha Institute of Pharmacy, Washim, Maharashtra, India.³Department of Quality Assurance, Shraddha Institute of Pharmacy, Washim, Maharashtra, India⁴Department of Pharmacology, Shraddha Institute of Pharmacy, Washim, Maharashtra, India.

Abstract:

Hair cosmetics are a series of products designed to improve the appearance and health of hair. These products include shampoos, conditioners, hair masks, hair oils, hair serums, hair sprays, and hair gels. Hair cosmetics are used to cleanse, nourish, moisturize, protect and style hair. Shampoos are used to cleanse the hair and scalp of dirt, oil, and product build-up. They contain surfactants that help remove impurities and keep your hair clean. Conditioners are used to moisturize and detangle hair, making it easier to comb and style. These contain ingredients like silicones, proteins, and oils that help smooth the hair cuticle and reduce frizz. Hair masks are deep conditioning treatments used to nourish and repair damaged hair. Contains ingredients such as keratin, amino acids and vitamins that strengthen hair and increase elasticity. Hair oil moisturizes your hair and protects it from damage. Contains natural oils such as argon oil, coconut oil, and jojoba oil to nourish your hair and prevent hair breakage. Hair serums are lightweight products used to smooth and add shine to hair. These contain silicones and other ingredients that help reduce frizz and keep your hair smoother and shinier. Hairsprays and gels are used to style hair. Contains polymers that provide strong holding power and prevent hair loss. In summary, hair cosmetics are essential products that help improve the appearance and health of your hair. Designed to cleanse, nourish, moisturize, protect, and style your hair so it looks and feels its best. With the right hair products, anyone can have healthy and beautiful hair.

Keywords – Shampoo, conditioner, styling gel, hair dye, serum, mousse, hair spray, hair oil, hair mask, heat protectant.

Corresponding author:

Ajay.R.Laware,
Department of Pharmacy,
Shraddha Institute of Pharmacy,
Washim, Maharashtra, India.

QR code



Please cite this article in press Ajay.R.Laware et al., . **Overview of hair cosmetics**, Indo Am. J. P. Sci, 2024; 11 (01).

INTRODUCTION:

Hair cosmetics refers to a group of products designed to improve the appearance and health of the hair. These products include shampoo, conditioner, hair masks, hair oils, hair serums, hair gels, sprays and hair dyes. Both men and women use hair care cosmetics to achieve different hair goals such as nutrition, hydration, repair, styling and colour. Shampoo is the main hair product used to clean the hair and scalp. Formulated with surfactants to help remove dirt, oil and product build-up from your hair. As for the conditioner, it is used to hydrate and lighten the hair. They contain ingredients such as silicones, proteins and oils that help soften hair cuticles and reduce frizz. Hair masks and oils are deep moisturizing treatments used to nourish and repair damaged hair. It contains ingredients like butter, coconut oil and oils that help hydrate and strengthen the hair. Conditioner is a lightweight product used to add shine and softness to hair. Contains silicone and other ingredients that help reduce frizz and frizz. Hair cosmetics encompass a diverse array of products formulated to enhance the aesthetic and health aspects of hair. This category includes shampoos for cleansing, conditioners for moisture and manageability, styling products for creative looks, hair dyes for colour alteration, and various treatments targeting specific concerns. Innovations often feature ingredients like argan oil or keratin, contributing to improved hair health. Market trends reflect a growing emphasis on eco-friendly formulations and sustainable practices. The dynamic nature of the industry continually evolves to meet changing consumer preferences and technological advancements. Market trends also focus on eco-friendly and sustainable formulations. As consumer awareness grows, brands often emphasize cruelty-free practices and minimal environmental impact. The dynamic nature of the hair cosmetic industry continues to evolve with advancements in technology and changing consumer preferences.

Hair -

Hair is a thread-like structure that grows from the epidermis, or outer layer of skin, found in mammals. It is mainly composed of a protein called keratin, which is also found in nails and the outer layer of the skin. Hair serves a variety of functions, including protection, insulation, sensory perception, and social interaction. Hair consists of three main layers: cuticle, cortex and core. The cuticle is the outermost layer and consists of overlapping scales that protect the inner layers of the hair. The cerebral cortex is the middle layer and contains the pigment corresponding to the colour of the hair. It also gives strength and elasticity

to the hair. The core is the innermost layer that is often missing in thin or light hair. Hair growth occurs in cycles where each hair follicle goes through a growth phase, a resting phase and a shedding phase. The rate at which hair grows varies from person to person, but on average, hair grows about half an inch per month. Hair types can vary greatly between individuals and population groups. The structure of the hair is determined by the shape of the hair follicle, which can be straight, wavy or curly. Hair colour is determined by the amount and type of pigment in the cortex. Hair can be naturally pigmented, from black to blonde, or artificially dyed. Hair acts as a sensory organ, especially in mammals. It can detect touch, pressure, and even changes in the environment. For example, body hair can stand up when we feel cold or scared, creating a layer of insulation or making us larger from potential threats. Hair also plays an important role in social interaction. It can be formed and managed in different ways to express personal identity, cultural affiliation or social status. In addition, hair can be used for forensic purposes, such as DNA analysis or personal identification. In general, hair is a complex and versatile structure that serves several functions in mammals, including humans. Its composition, growth cycle, texture, colour and design possibilities make it a unique and important feature of our body.

There are many types of hair with different characteristics such as texture, thickness and curl pattern. Here are some of the more common types.

1. Straight Hair: This type of hair is straight and has no noticeable curls or waves. It is usually shiny and reflects light easily.
2. Wavy Hair: Wavy hair has a light "Standout; shape and can vary from loose waves to more defined waves. It has more volume and body compared to straight hair.
3. Curly Hair: Curly hair forms tight or loose curls and can have a variety of curl patterns from spiral curls to curls. It tends to be fluffier and requires extra moisture and care. .
4. Thin hair: Thin hair refers to the thickness or diameter of each individual strand. It is usually soft and may appear thin or lack volume.
5. Medium Length Hair: Medium length hair falls between fine and coarse hair. It has a moderate thickness and is generally more manageable.
6. Coarse hair: Coarse hair has a larger diameter and feels thicker to the touch. It is often sleek and can be prone to frizz.

It is important to note that these are general categories and many people have different hair types or unique

variations. Additionally, hair can be classified based on porosity, density and other factors

What are hair cosmetics?

Hair cosmetics means products specially designed for the care, styling or treatment of hair. These may include shampoos, conditioners, hair dyes, styling gels, serums, hair masks and other products designed to clean, nourish, colour or style hair to achieve a certain look or treat certain hair problems.

Benefits of hair cosmetic -

1. Improved Look: They help improve the look and feel of hair by providing nourishment, moisture and styling options for healthier, clearer hair.
2. Hair health: Some hair care products contain ingredients that improve the health of the scalp, strengthen hair, prevent breakage and fight problems such as dryness or frizz.
3. Styling Versatility: They allow for a variety of styling options, allowing people to experiment with different hairstyles, textures and colours.
4. Problem Solving: Some hair care products target problems such as dandruff, hair loss or damaged hair by offering solutions to these problems.
5. Self-expression: Hair cosmetics enable self-expression by allowing people to reflect their personality through different colours, styles and trends.
6. Convenience: They make hair care easy by providing ready-to-use solutions for cleaning, conditioning and styling, simplifying your hair care routine.

Various types of hair cosmetic

Shampoos –

Shampoos are hair care products that are primarily used to clean the scalp and hair. They consist of a combination of ingredients that usually include surfactants, water, conditioners, fragrances, preservatives and sometimes special additives.

1. Special additives: Shampoos may contain additives that target specific hair problems such as dandruff, dryness, oiliness, colour protection or damage repair. For example, anti-dandruff shampoos may contain ingredients such as zinc parathion or ketoconazole, which fight flaking and itching.
2. pH Balance: Shampoos are designed to maintain the correct pH level for the scalp to prevent irritation or dryness.
3. Variations: There are different types, such as cleansing shampoos (to remove product build-up), volumizing shampoos (for additional growth and

fullness), moisturizing shampoos (for dry or damaged hair), colour shampoos (to keep colour treated). Using the right shampoo for your hair type and problem will help maintain scalp health, keep hair clean and promote overall hair health and appearance.

Surfactant -

Surfactants are a key ingredient in hair cosmetics, including shampoos, conditioners, and styling products. They are responsible for the cleansing and foaming properties of these products.

Surfactants, short for surface-active agents, are compounds that have both hydrophilic (water-loving) and hydrophobic (water-repelling) properties. This unique characteristic allows them to interact with both water and oil, making them effective in removing dirt, oil, and other impurities from the hair and scalp.

There are several types of surfactants used in hair cosmetics, including anionic, cationic, non-ionic, and amphoteric surfactants. Each type has different properties and functions, and they are often combined in formulations to achieve the desired cleansing and conditioning effects.

1. Anionic surfactants : such as sodium lauryl sulphate (SLS) and sodium Lauretha sulphate (SLES), are commonly used in shampoos. They have excellent cleansing properties and produce a rich lather. However, they can be harsh on the hair and scalp, causing dryness and irritation, especially with frequent use.

2. Cationic surfactants : such as ceremonial chloride and behentrimonium chloride, are often found in conditioners and leave-in treatments. They have a positive charge and are attracted to the negatively charged hair strands, helping to reduce static, improve manageability, and provide conditioning benefits.

3. Non-ionic surfactants : such as cocamidopropyl betadine and decal glucoside, are milder and less irritating compared to anionic surfactants. They are often used in baby shampoos and products for sensitive skin. Non-ionic surfactants have good foaming properties and can help to improve the overall mildness of the formulation.

4. Amphoteric surfactants : such as disodium cocoamphoacetate and cocamidopropyl hydroxylamine, have both positive and negative charges and can act as both anionic and cationic surfactants. They are often used in mild and gentle formulations, providing a balance between cleansing and conditioning properties.

In addition to their cleansing properties, surfactants also play a role in the stability and texture of hair cosmetics. They help to emulsify and disperse

Conditioner -

A conditioner is a hair care product formulated to improve the overall health, appearance and manageability of hair. It works by moisturizing, nourishing and smoothing the hair.

Here are some of the main features of the air conditioner:

1. **Moisturizing:** Conditioners contain ingredients such as emollients and humectants that help hydrate the hair. Emollients like oils and silicones form a coating on the hair and seal in moisture. Humectants attract and retain moisture from the environment, keeping hair moist. Detangling and
2. **smoothing:** Conditioners contain ingredients that coat the hair cuticle, making it smoother and more manageable. This reduces friction between the fibres, prevents breakage and makes combing or brushing more manageable.
3. **Repair and protection:** Many conditioners also contain proteins and vitamins to strengthen hair and repair damage from heat, chemical or environmental damage. Some may also offer protection against future damage.

Types of conditioners:

There are different types of conditioners, including leave-in conditioners (apply after shampooing and washing), leave-in conditioners (apply and leave without rinsing), and deep conditioners or hair masks (an intensive treatment that provides deeper conditioning).). Feeding and healing).

Hair Type Considerations:

Conditions are tailored to different hair types such as dry, damaged, curly, thin or coloured hair. They may contain specific ingredients to meet their specific needs.

Hair oil –

Hair oil is a care product that is mainly used to nourish, moisturize and improve the health of the hair and scalp. Here's a detailed breakdown:

1. **Nutrition:** Hair oils usually consist of natural oils such as coconut, argon, jojoba, almond or olive oil. These oils are rich In vitamins, antioxidants and fatty acids that penetrate the hair, nourishing and strengthening it from the inside.
2. **Moisturizing:** Hair oils help retain moisture in the hair and prevent dryness and brittleness. They

create a protective barrier, lock in moisture and prevent water evaporation, especially in dry or damaged hair.

3. **Scalp Health:** Massaging hair oil into the scalp can promote circulation, reduce dryness and nourish hair follicles. This can potentially improve the overall health of the scalp, which can help reduce dandruff or irritation.
4. **Repair and protection:** Hair oils can repair damage caused by heat treatment, chemical treatments or environmental factors by providing a protective layer and sealing the hair cuticles, preventing further damage.
5. **Styling aid:** Some hair oils also act as styling aids, reducing frizz, adding shine and making hair more manageable. They can be used before styling or lightly applied after styling for a polished look.

Types of Hair Oils:

There are different types of hair oils available, each with its own benefits and ideal uses. For example, argon oil is known for its ability to tame frizz, while coconut oil is known for its moisturizing properties.

Hair Serum –

Hair serum is a special hair care product designed to solve specific problems related to hair structure, manageability and style. Here Is a detailed overview:

1. **Texture and appearance:** Hair serums are lightweight, often silicone-based products that give hair a silky, smooth texture. They help control frizz, reduce flyways and add shine without weighing hair down.
2. **Protection:** Hair serums act as a protective barrier against heat damage caused by styling tools such as straighteners, curling irons and blow dryers. They form a coating on the hair fibres, reducing the effect of high temperatures and preventing moisture.
3. **Clarity and manageability:** Serums make hair more manageable by smoothing hair cuticles, making it easier to detangle and style. They can help reduce knots and make brushing or combing your hair smoother.
4. **Moisturizing and nourishing:** Some hair serums contain ingredients such as oils, vitamins or proteins that moisturize and nourish the hair, improving its overall health and appearance.
5. **Styling aid:** Hair serums can be used as styling aids to achieve a certain look. They can help define curls, add volume or create sleek, straight styles while providing a glossy finish.

How to use:

A small amount of serum is usually applied to wet or dry hair, focusing on medium-length hair to the ends to prevent the scalp from becoming greasy. It is important not to use too much serum so that the hair does not look greasy or heavy.

Types of serums:

There are different serums for different hair types and problems, such as smoothing serums to control frizz, volumizing serums or shine enhancing serums.-

- 1.breakdown: Hold and control: Hair gel contains ingredients such as polymers that coat the hair shaft, provide strong hold and hold hair in place. It's perfect for creating flowing styles or defining a certain look like spikes or structured hairstyles.
2. Texture and definition: gels come in different strengths, from light to very strong hold, allowing for different levels of control and definition. Some gels also offer a glossy finish that enhances hair and appearance.
3. Styling Versatility: This is a versatile product that works with a variety of hairstyles, including slicked back styles, pompadours, spikes and even curly or wavy looks. It can be used on both wet and dry hair, depending on the desired end result.
- 4.Application: The hair gel is usually applied to wet or towel-dried hair, spread evenly and styled as desired. It can also be used on dry hair throughout the day to fix or style.

Washing: Most hair gels are water soluble, so they are easy to wash off with water. When washed properly, they leave no residue, leaving a clean feeling after washing.

Special Formulations:

A variety of hair gels are available, including alcohol-free gels for sensitive scalps, gels with added moisturizers to prevent hair from drying out, and gels with UV protection to protect hair from sun damage.

Usage Warning:

Excessive amount of gel or too frequent use can cause product build-up, making hair stiff, greasy or difficult to manage. It's important to use the right amount and wash your hair thoroughly to avoid residue.

Hair colour product –

Hair colour products are formulations used to change or enhance the natural colour of hair. Here is a comprehensive overview of these products:

Types of hair dye:

1. Permanent Hair Colour: These colour penetrate the hair and last until new growth occurs. They offer long-lasting colour, but often contain ammonia or similar chemicals that open the hair cuticle for colour to penetrate.
2. Semi-permanent hair colour: These colour do not penetrate as deeply and gradually wash off with several shampoos. They usually do not contain ammonia and are gentler on the hair.
3. Temporary hair colour: These products are the most temporary and often come in the form of sprays, gels or chalks. They sit outside the hair and can be easily washed off with shampoo

Hair cosmetic Reaction -

Reactions to cosmetic ingredients in decreasing order of frequency are: Fragrances, hair-colouring agents(p-phenylenediamine) preservatives: Formaldehyde, parabens, quaternium-15 (a formaldehyde donor); Imidazolidine urea; DMDM hydration. Most of the cases are caused by leaving on products. Short contact Cosmetics usually do not cause irritation or allergy.[72] Van Lerberghe and Baeck described an acute Oozing eczema of the scalp, forehead, and neck, and important enema of the eyelids The patient had Performed a hair-smoothing treatment the day before, using a product (INOAR Moroccan Hair Treatment Containing formaldehyde that had been bought in Morocco by her hairdresser. The patch test was positive To formaldehyde and no formaldehyde ingredients (++) .[73]

Components and ingredients:

- Chemical dyes: Hair dyes contain chemicals that affect the natural pigments of the hair and change its colour. These chemicals can include hydrogen peroxide, ammonia and various dyes.
- Natural and herbal colour: Some products use herbal or natural ingredients, such as henna or plant extracts, to provide colour without harsh chemicals. These options are often preferred by people looking for more natural options .

Applications -

- 1.HomeKits: Many haircolour products come in kits with instructions that are easy at home. They usually include toner, developer, gloves and instructions.
- 2.Professional salon services: For more complex colour changes or special techniques such as highlights or balisage, people often seek the expertise of professional colourists in a salon.
- 3.Versatility and customization: Hair colour products come in a wide range of shades and hues to suit different preferences and allow people to experiment with different looks. They can cover grey hair, add

highlights or completely change the colour of your hair.

4. Care and aftercare: After colouring, proper care is necessary to maintain the colour and keep the hair healthy. This can mean using colour-safe shampoos and conditioners, avoiding excessive heat, and scheduling touch-ups when needed.

Use of hair cosmetics –

Hair cosmetics serve multiple purposes and offer many benefits for hair care, styling and overall hair health. Here's an in-depth look at how to use them:

1. Cleaning and hygiene: - Shampoo: cleans the scalp and hair by removing dirt, excess oil and product build-up, maintaining the health of the scalp. - Shine Shampoo: Removes hardened residue and build-up from styling products, chlorine or hard water, restoring hair's natural shine.
2. Hydration and nutrition: - Condition: Moisturizes and softens hair, reduces frizz, clarifies and adds shine, replenishing moisture and nutrients lost during cleansing. - Hair Oil: Provides deep nourishment, hydration and restoration to dry, damaged hair, promoting overall hair health.
3. Repair and maintenance: - Hair masks/treatments: deeply nourishes, repairs and strengthens hair and treats specific problems such as dryness, damage or breakage. - Leave-in conditioners: provide long-lasting hydration and protection, especially for dry or frizzy hair, providing continuous care throughout the day.
4. Improve style and appearance: - Hair gel, foam or styling cream: helps shape, giving hold, volume, texture or smoothness, allowing different hairstyle. Hair serums: tame frizz, add shine and protect hair from heat damage while achieving a polished finish.
5. Hair Colour Products: Change or enhance hair colour, cover grey hair, add highlights or create a whole new look.
6. Scalp health and care: - Scalp treatment: focus on specific scalp problems such as dandruff, itching or dryness to improve the scalp environment. .
7. UV protection and environmental protection: - UV protection products: protect hair against the harmful effects of the sun's rays, preventing drying, colour fading and brittleness.
8. Anti-Pollution Hair Care: Protects hair from environmental pollutants and toxins that can cause dullness, dryness or damage.

CONCLUSION:

In conclusion, the overview of hair cosmetics underscores the dynamic industry catering to diverse

hair care needs. From shampoos and conditioners to styling products and treatments, this sector continuously evolves to meet consumer demands for varied textures, styles, and overall hair health. The ongoing pursuit of innovation and inclusivity ensures that the world of hair cosmetics remains vibrant and responsive to changing beauty preferences. In conclusion, hair cosmetics have become an essential part of our daily routine. They help us maintain healthy and beautiful hair by providing nourishment, protection, and styling. However, it is important to choose the right products that suit our hair type and needs. It is also crucial to follow the instructions and not overuse the products, as they can cause damage to our hair. Overall, hair cosmetics can enhance our appearance and boost our confidence, but we should always prioritize the health of our hair.

REFERENCE:

1. Bolduc C, Shapiro J. Hair care products: Waving, straightening, conditioning, and colouring. *Clan Dermatology*. 2001;19:431–
2. Kamath YK, Weismann HD. Autography of human hair. *J Appl Polyp Sci*. 1982;27:2809–3833.
3. Robbins CR. *Chemical and Physical Behaviour of Human Hair*. 4th ed. New York: Springer; 2013.
4. de As Dias TC, Baby AR, Kaneko TM, Robles Velasco MV. Relaxing/straightening of Afro-ethnic hair: Historical overview. *J Cosmet Dermatology*. 2007;6:2–5.
5. Syed AN. Ethnic hair care products. In: Johnson DH, editor. *Hair and Hair Care*. Vol. 17. New York: Marcel Dekker; 1997. pp. 235–59.
6. Shapiro J, Madden S. Medicated shampoos. *Clan Dermatology*. 1996;14:123–8.
7. Daksha, Maliyah R, Sharma PK. Advancement in shampoo (a dermal care product): Preparation methods, patents and commercial utility. *Recent Pat Inflamm Allergy Drug Disco*. 2014;8:48–58.
8. Drawls ZD. *Hair Care-an Illustrated Dermatologic Hand Book*. 1st ed. United Kingdom: Taylor and Francis; 2005.
9. . Drawls ZD. Essentials of Hair Care often Neglected: Hair Cleansing. *Int J Trichology*. 2010;2:24–9.
10. Abraham LS, Moreira AM, Maura LH, Dias MF. Hair care: A medical overview: Part 1. *Surge Cosmet Dermatology*. 2009;1:130–6.
11. Suing DY. Hair straightening. In: De Navarre MG, editor. *The Chemistry and Manufacture of Cosmetics*. 2nd ed. Vol. 4. Wheaton: Allured Publishing Corporation; 1993. pp. 1155–65.

12. Nazir H, Lv P, Wang L, Lain G, Zhu S, Ma G. Uniform-sized silicone oil micro emulsions: Preparation, investigation of stability and deposition on hair surface. *J Colloid Interface Sci.* 2011;364:56–64.
13. Wilkinson JB, Moore RJ. *Cosmetology de Harry*. Madrid, Spain: Diaz de Santos; 1990. p. 1039.
14. Rele AS, Mohile RB. Effect of mineral oil, sunflower oil, and coconut oil on prevention of hair damage. *J Cosmet Sci.* 2003;54:175–92.
15. Rele AS, Mohile RB. Effect of mineral oil, sunflower oil, and coconut oil on prevention of hair damage. *J Cosmet Sci.* 2003;54:175–92.
16. Wolfram LJ. Human hair: A unique physicochemical composite. *J Am Acad Dermatol.* 2003;48:S106–14.
17. Paola M U V R, Ribeiro M E, Benzamine VV, Bedim V. *Cabela's entices. Cosmet toilet.* 1999;11:36–44.