

Review Article

## Current trends in hair care in men

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### ABSTRACT

Hair care is essential for men for a variety of reasons, spanning from esthetics to overall health. A clean scalp reduces the risk of hair concerns in men such as seborrheic dermatitis and bacterial infections. Engaging in regular hair care routines can be a form of self-care, contributing to a sense of well-being and personal satisfaction. Proper hair care can also help reduce the risk of damage and hair loss. Avoiding harsh treatments and using appropriate products can preserve hair health and prevent excessive shedding. A diet rich in vitamins and minerals supports healthy hair growth. This review discusses hair cosmetics and its importance in men.

**Keywords:** Hair care, Hair cosmetics, Men, Shampoo, Conditioners

### INTRODUCTION

Hair plays a multifaceted role in a man's life, influencing everything from self-expression and identity to social perception and psychological well-being. Men often use their hair to convey their personality, beliefs, and lifestyle. For instance, a man with a meticulously styled cut might project an image of professionalism, while someone sporting a more unconventional style might be seen as creative or rebellious. In some cultures, specific hairstyles are symbolic of social status, religious beliefs, or tribal affiliation. For many men, hair is a critical element in their grooming routine, as it contributes to their overall appearance and self-confidence. Hair changes can also serve as indicators of age and health.<sup>[1]</sup> Healthy hair can be described as "shiny hair with a smooth texture and clean-cut ends or tapered tips that are generally perceived to be healthy. Hair texture and shine relate to hair surface properties, whereas the integrity of hair ends relates to the hair cortex. Hair can be straight, wavy or curly, blonde, black, brown, red, and gray-white, and its natural variations are essential to our identity."<sup>[2]</sup> It is important to be aware of the hair cycle and hair growth to reduce the misconceptions that prevail among individuals in society.

### HAIR CONCERNS IN MEN

Common concerns that men encounter commonly include androgenetic alopecia, alopecia areata, seborrheic dermatitis, premature graying of hair, and infections such as bacterial causes. Androgenetic alopecia is the most prevalent form of hair loss in men, often starting with a receding hairline or thinning at the crown. This condition is primarily genetic and is influenced by the hormone dihydrotestosterone (DHT). Alopecia areata is an autoimmune disorder where the immune system attacks hair follicles, resulting in sudden, patchy hair loss. Telogen effluvium involves a temporary increase in hair shedding, often triggered by stress, illness, or hormonal

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changes. Anagen effluvium is characterized by rapid hair loss due to damage to the hair follicles, commonly associated with chemotherapy or severe medical treatments.

Thinning of hair can result from various factors including genetics, nutritional deficiencies, hormonal imbalances, and prolonged stress. Thinning can affect the density and fullness of hair, impacting the overall appearance and making hair appear less healthy. Premature greying, or the early onset of grey hair, is often genetic but can also be influenced by vitamin deficiencies or high levels of stress. Dandruff results in flakes and itching due to a dry or irritated scalp. It can be uncomfortable and embarrassing, especially in social or professional settings. Scalp psoriasis causes red, scaly patches, and can be uncomfortable and noticeable, leading to embarrassment or self-consciousness.<sup>[1,3]</sup>

## HAIR COSMETICS IN MEN

### Traditional formulations-shampoos

Shampoos and conditioners for men were formulated to provide basic cleansing and conditioning. Ingredients found in shampoo include detergents, conditioners, opacifiers, emulsifiers, thickeners, preservatives, and fragrances. The functions of each are described in Table 1. The various types of shampoo are summarized in Table 2. Caffeine is thought to penetrate the hair follicle and prolong the anagen (growth) phase of hair, potentially mitigating hair loss. Other specialized formulations address dandruff, oily scalp, or thinning hair, incorporating ingredients such as ketoconazole, biotin, and tea tree oil.<sup>[3]</sup>

### Conditioners

Conditioners flatten the cuticles and seal the gaps that could expose the cortex to environmental damage. They are

either incorporated into shampoos or used after cleansing, on slightly damp hair. Hence, they would need to have a combination of free saturated/unsaturated fatty acids, squalene, cholesterol, and triglycerides. The practice of using hair oil in India since ancient times is akin to using conditioners today. Conditioning agents incorporated into shampoos include mineral oils, vegetable oils, fatty alcohols/esters, humectants, hydrolyzed animal proteins, glycerine, stearylalkonium chloride, propylene glycol, silicones (dimethicone and simethicone), and natural products like bee's honey (an emulsion of proteins, sugars, and lipids), vinegar, wheat germ oil, panthenol, collagen, and placenta. Conditioners are available as rinses, instant, leave-on, serums, and professional conditioners.<sup>[3-5]</sup>

## HAIR STYLING PRODUCTS

Men's styling products include gels, waxes, pomades, clays, and pastes. Each type offers a different hold, texture, and finish. For instance, gels provide a strong hold and glossy finish, while waxes and clays offer a more flexible hold with varying levels of shine. While styling products can enhance appearance, they may also impact hair health. Ingredients in some products can contribute to buildup on the scalp, leading to issues such as dryness, breakage, and irritation. Recent studies have examined the effects of these products on scalp and hair health, emphasizing the need for formulations that include conditioning agents to counteract potential damage.<sup>[3,4]</sup>

## HAIR COLORING PRODUCTS

Hair coloring has become a prevalent cosmetic practice among men, driven by desires to cover grey hair, change appearance, or express personal style. The choice of hair coloring agents and their impact on hair health and

**Table 1:** Ingredients in a shampoo with salient features.

Ingredients	Functions
1. Detergents	<ul style="list-style-type: none"> <li>Surfactants combine and emulsify and wash off the grease and dirt (soil)</li> <li>They include sodium laurel/laureth sulfates, ammonium lauryl/laureth sulfates, triethanol amine lauryl sulfate, diethanol lauryl sulfate, and sodium olefin sulfate</li> <li>It is very effective in cleansing the hair and stripping the hair of sebum, leaving it dry</li> </ul>
2. Foaming agents	<ul style="list-style-type: none"> <li>People equate efficacy with the foaming of the shampoo</li> <li>Greasy hair will require repeated washing with shampoo until the shampoo foams properly</li> </ul>
3. Conditioners	<ul style="list-style-type: none"> <li>Coat the cuticle to improve shine, slip, and easy combability. (as plain cleanser will make hair dry and dull)</li> </ul>
4. Sequestering agents	<ul style="list-style-type: none"> <li>Sequestering agents prevent the formation of this scum by chelating the calcium and magnesium ions from hard water</li> </ul>
5. Thickeners and opacifiers	<ul style="list-style-type: none"> <li>The consumer equates thickness with a better esthetic look and efficacy</li> <li>Early - alkanolamides were used; Now - various aqueous and non-aqueous agents</li> <li>Betaines combine with the anionic surfactants to make large micelles that increases the viscosity of the product</li> </ul>
6. pH adjusters	<ul style="list-style-type: none"> <li>Damaged hair can swell with alkaline detergents. Hence, when formulating suitable shampoos, an acidic pH adjustment is done. The substances used include citric and lactic acid</li> </ul>
7. Additives	<ul style="list-style-type: none"> <li>To give better conditioning</li> </ul>

**Table 2:** Types of shampoos.

Normal hair shampoo	<ul style="list-style-type: none"> <li>• For people who have hair which is chemically untouched and a scalp which produces moderate sebum</li> <li>• Detergent-lauryl sulfate</li> <li>• Provide good cleansing and minimal conditioning</li> </ul>
Dry hair shampoo	<ul style="list-style-type: none"> <li>• For people who have undergone chemical treatment or harsh styling procedures</li> <li>• Mild cleansing and good conditioning</li> </ul>
Oily hair shampoo	<ul style="list-style-type: none"> <li>• For people who produce abundant sebum</li> <li>• Contain detergents-lauryl sulfates or sulfosuccinates</li> <li>• No conditioners</li> </ul>
Everyday shampoo	<ul style="list-style-type: none"> <li>• No conditioners</li> <li>• So instant stand-alone conditioner is recommended which can be applied immediately after shampooing in the shower and completely rinsed from the hair before drying</li> </ul>
Deep cleansing shampoo	<ul style="list-style-type: none"> <li>• For people who use styling products, such as hair spray, gel, and mousse</li> <li>• These polymers build up on the hair shaft after continuous use and make the hair look rough, dull and harsh</li> <li>• To remove these polymers, a strong detergent like lauryl sulfates is used as their primary detergent</li> <li>• Used once weekly</li> </ul>
Medicated shampoo	<ul style="list-style-type: none"> <li>• For seborrheic dermatitis, psoriasis, bacterial or fungal infections</li> <li>• In addition to regular cleansers, they contain active agents such as Tar derivatives, corticosteroids, salicylic acid, sulfur, selenium sulfide, polyvinylpyrrolidone-iodine complex, chlorinated phenols or zinc pyrithione</li> <li>• Two-in-one (popularly known as “2-in-1”) shampoos, which contain silicone in the form of dimethicone as conditioner, and mild detergents, such as laureth sulfates or cationic detergents, which produce reasonably good foam</li> <li>• Thus, after shampooing, the sebum is replaced with silicone to make the hair shiny, soft, and free of static electricity</li> </ul>
Professional shampoos	<ul style="list-style-type: none"> <li>• For professional hair stylists and cosmetologists</li> <li>• They are either used before a cutting or styling procedure or before and after a chemical process like bleaching and dyeing or coloring process</li> <li>• These have ingredients in concentrated forms or special anionic or cationic detergents that neutralize the harsh effects of chemicals on the hair shaft or remove the residues of chemicals applied to achieve a particular hairstyle or color</li> <li>• They are not to be used for day-to-day hair care</li> </ul>

dermatological conditions are critical considerations in this context.

## TYPES OF HAIR COLORING AGENTS

### Permanent hair dyes

Permanent hair dyes are the most durable, providing long-lasting color changes by penetrating the hair shaft containing ammonia and hydrogen peroxide. Ammonia opens the hair cuticle, allowing the dye to penetrate, while hydrogen peroxide develops the dye and lightens the natural color. They are effective for substantial color changes and gray coverage but can be harsh on hair and scalp. Due to their chemical content, they often lead to increased dryness, breakage, and potential allergic reactions (Para-phenylenediamine).<sup>[3,4]</sup>

### Semi-permanent hair dyes

Semi-permanent dyes do not contain ammonia and do not require peroxide. They coat the hair shaft and gradually fade over time with washing. They are used for temporary color changes and enhancing natural color.<sup>[3,4]</sup>

### Demi-permanent hair dyes

Demi-permanent dyes contain a lower concentration of peroxide and balance the longevity of permanent dyes and the gentleness of semi-permanent options. These dyes penetrate the hair shaft partially, providing more subtle and longer-lasting color changes than semi-permanent dyes but with less damage than permanent dyes.<sup>[3,4]</sup>

### Natural hair dyes

Natural dyes, such as henna and indigo, are derived from plant sources and are often perceived as safer alternatives to synthetic dyes. They are less likely to cause allergic reactions or scalp irritation compared to synthetic dyes.<sup>[3,4]</sup>

## HAIR STRAIGHTENING

Hair straightening for men is a growing trend, driven by a desire for sleek, smooth hair or to manage curly or wavy textures. It is done with the use of either chemical (keratin, use of strongly alkaline agents like 1.5–3.5% sodium/potassium hydroxide (lye-based), or guanidine/lithium

hydroxide, (no-lye) with pH 12.5 and 14, relaxers), or non-chemical methods (flat irons, heated brushes, and blow drying with a round brush).<sup>[3,4]</sup>

## HAIR OILING

Hair oiling is a common traditional ritual in India that is perceived to enhance beauty, nourish hair, strengthen hair, increase hair growth, and reduce hair fall. After combing the hair, hair oiling is applied from the roots to the tips, followed by a hair braid once a week before shampooing. Applying hair oil penetrates the hair fibers, increasing their thickness. Hair thickness is directly proportional to tensile strength, and the cohesive force of the hair has an inverse relationship with hair thickness and tensile strength.<sup>[5,6]</sup>

Various oils can be used for application over hair including coconut oil, almond oil, argan oil, olive oil, amla oil, fenugreek oil, sesame oil, castor oil, linseed oil, and mustard oil. The commonly used oil for application is coconut oil. It consists of medium-chain fatty acids such as myristic acid, capric acid, and monolaurin. Other constituents include tocopherol and phenolic acids. Coconut oil has anti-bacterial activity (monolaurin), antifungal activity (monolaurin), emollient action, lubricant (flattens cuticle surface), saponifying agent, and prevents protein loss.<sup>[6,7]</sup> Three different kinds of hair oils (vegetable oil, mineral oil, and a combination of both vegetable and mineral oil) are produced and sold in India by both small-scale businesses and a few establishments in the organized sector of the market. Most of the commercially available hair oils belong to type three. A few of the commonly used brands include Dabur amla, Dabur Sarson, Himalaya herbals, Keo Karpin, Himani Navaratna Oil Ayurvedic, Parachute Jasmine, Bajaj Almond Drops, Nihar Shanti Amla, Cantharidine, and so on.

## HAIR KERATIN AND HAIR SERUMS

Nowadays, hair serum is a commonly used hair care product. The most common ingredients of hair serum include freeze-dried coconut water, selenopeptide, amla extract, peanut shell extract, tetrahydropiperine, and sandalwood odorant. The function of each ingredient is as follows:<sup>[8]</sup>

- Freeze-dried coconut – rich in growth promoters and micronutrients
- Selenopeptide – prevents loss of hair and promotes hair growth
- Amla extract (*Phyllanthus emblica*) – promotes hair growth and softens hair, making hair shinier
- Peanut shell extract (luteolin) – prevents allergy and itch
- Tetrahydropiperine – enhances dermal penetration of active ingredients, non-irritant
- Sandalwood extract – for aroma

Hair keratin treatment is proposed to increase hair strength on repeated sittings. The possible mechanism is when the hydrolyzed keratin diffuses into the hair shaft's cortex, it forms a cross-link with the hair keratin. This extra keratin fills the flaws and reconstructs the hair shaft. As a result, the shaft becomes stronger and healthier.<sup>[9]</sup>

## SCALP MICROPIGMENTATION (SMP)

SMP is a specialized cosmetic technique used to replicate the appearance of hair follicles on the scalp. SMP is effective for treating different types of alopecia, such as androgenetic alopecia (male pattern baldness) and alopecia areata. By creating the illusion of hair follicles, SMP can enhance the appearance of hair density and provide a fuller look. It is used to camouflage scars resulting from hair transplants, injuries, or surgeries. By blending the pigment with the surrounding skin, SMP can minimize the visibility of these scars. For individuals experiencing diffuse thinning, SMP can simulate the look of a fuller scalp by adding depth and texture to the affected areas. The procedure involves depositing specialized pigments into the epidermal and upper dermal layers of the scalp using micro-needles. Techniques such as dotting, shading, and stippling are employed to mimic natural hair follicles. Typically, multiple sessions are required to achieve optimal results. Each session involves layering pigments to build the desired density and achieve a natural appearance. The risks include over time, pigments may fade due to natural skin processes, ultraviolet exposure, and lifestyle factors. Regular touch-ups are necessary to maintain the desired appearance. Although rare, some individuals may experience allergic reactions to the pigments used. A patch test is recommended before the full procedure to identify any sensitivities. Post-procedure, the scalp may exhibit redness, swelling, or sensitivity. Adhering to aftercare instructions, such as avoiding excessive moisture and sun exposure, is essential to minimize these effects. SMP does not stimulate hair growth or address the underlying causes of hair loss. It solely provides a cosmetic enhancement. Post-treatment care includes keeping the scalp clean and dry, avoiding sun exposure, and refraining from using harsh hair products or shampoos. Regular use of sunscreen and gentle hair care products helps to preserve the pigmentation and protect the scalp from damage. Patients should schedule follow-up visits to assess the longevity of the pigmentation and determine if touch-ups are needed.<sup>[10]</sup>

## PLATELET-RICH PLASMA THERAPY (PRP)

PRP therapy is a medical treatment that utilizes a concentration of platelets derived from the patient's blood to promote healing and tissue regeneration. PRP therapy is increasingly used to address hair loss issues, including androgenetic alopecia (male pattern baldness) and other

forms of hair thinning. PRP therapy involves drawing a small amount of the patient's blood, which is then processed in a centrifuge to separate and concentrate the platelets and growth factors. The concentrated PRP is injected into the scalp at areas of hair thinning or loss. The growth factors in PRP are believed to stimulate hair follicles, improve blood circulation, and enhance hair growth.<sup>[11]</sup>

## HAIR TRANSPLANTATION

Follicular unit transplantation (FUT) and follicular unit extraction (FUE) are two prominent methods of hair transplantation, each with distinct techniques, advantages, and considerations. FUT is well-suited for those requiring a larger number of grafts and who can tolerate a linear scar, while FUE is ideal for patients seeking minimal scarring and a quicker recovery.<sup>[12]</sup>

### FUT

The procedure involves harvesting wherein a strip of scalp skin, containing hair follicles, is surgically removed from the donor area, usually the back of the head. The strip is then dissected into individual follicular units (grafts). The harvested follicular units are implanted into the recipient area, where hair is thinning or balding. The advantages include a higher yield, cost-effectiveness, and consistency. The disadvantages include scarring, longer recovery, and potential discomfort.

### FUE

The procedure involves harvesting individual follicular units that are extracted directly from the scalp using a small, circular punch tool, and the extracted follicular units are then transplanted into the recipient area. The advantages include minimal scarring and faster recovery.

## LOW-LEVEL LASER THERAPY (LLLT)

LLLT is a non-invasive treatment that uses low-level lasers or light-emitting diodes to stimulate hair growth. It is often used for conditions like androgenetic alopecia, a common form of hair loss in men. LLLT is thought to work by stimulating the hair follicles, increasing blood flow to the scalp, and enhancing cellular metabolism. This can potentially help prolong the growth phase of the hair cycle and reduce hair shedding. LLLT is often used alongside other treatments such as topical minoxidil, oral finasteride, or hair transplant procedures for better results.<sup>[13]</sup>

## MEDICATIONS TO PREVENT HAIR LOSS IN MEN

Finasteride is an oral medication that inhibits the enzyme 5-alpha reductase, which converts testosterone into DHT.

DHT is a key hormone in androgenetic alopecia (male pattern baldness). It can slow hair loss and promote regrowth in many men. Studies show that about 60–70% of men see positive results. It is typically prescribed as a 1 mg daily tablet. Potential side effects include sexual dysfunction (e.g., reduced libido and erectile dysfunction), depression, and, in rare cases, breast tenderness or enlargement. Most side effects are reversible on discontinuation of the medication.

Minoxidil is a topical treatment that dilates blood vessels in the scalp, increasing blood flow to hair follicles and stimulating hair growth. It is effective for many men, especially those with early-stage hair loss. About 40–60% of men see some improvement. Minoxidil is available as a topical solution (2–5%) or foam. They are typically applied twice daily to the scalp. Side effects can include scalp irritation, itching, and unwanted facial hair growth if the medication drips onto the face. Rarely, systemic side effects such as dizziness or swelling can occur.<sup>[14,15]</sup>

Minoxidil decreases the rate of hair loss and promotes hair regrowth by increasing its diameter and density. The mechanism is not fully understood. It can promote premature anagen entry to resting hair follicles, thereby prolonging the anagen phase of the hair cycle resulting in increased hair shedding after initiation of minoxidil therapy temporarily. Low-dose oral minoxidil at a dose of 5 mg once daily significantly increased hair growth in men with androgenetic alopecia after 12 and –24 weeks of treatment. Minor side effects include hypertrichosis and pedal edema. The use of oral minoxidil is carefully planned in patients with severe hypertension and risk of cardiovascular events.

## DIET AND LIFESTYLE

Hair growth and loss are maintained by genetic and epigenetic factors. Epigenetic factors include extended periods of stress, restricted diet, competitive lifestyle, air pollution, ultraviolet radiation, smoking, alcohol, lack of proper sleep, and so on.<sup>[16]</sup> Nutrition plays an essential role in hair growth and development. Hair follicle progenitor cells are absent from bald scalps, whereas hair follicle stem cells are retained. The population and proliferation of stem cells are maintained by nutrition.<sup>[17]</sup> Iron after absorption, gets transported, with the help of micronutrients such as Vitamin A, Vitamin C, zinc, copper, beta-carotene, and amino acids.<sup>[18]</sup> A deficiency of iron causes an arrest in the growth of hair.<sup>[19]</sup> Unsaturated fatty acids such as gamma linoleic acid have the maximum inhibitory action on the enzyme 5-alpha reductase, thereby preventing the formation of DHT.<sup>[20]</sup> Alpha-tocopherol and tocotrienol reduce reactive oxygen species and inhibit lipid peroxidation.<sup>[21]</sup> Vitamin D3 directly affects dermal papilla cells, controls hair cycles, and lowers insulin resistance. As an immuno-modulator, zinc suppresses catagen, stops follicle regression, and encourages telogen recovery. Dermal

papilla cell differentiation and proliferation are aided by copper. Arachidonic acid stimulates angiogenesis, growth factor expression in dermal papilla cells, matrix keratinocyte mitosis, and hair elongation.<sup>[22-24]</sup>

Nutritional supplements can be beneficial for managing hair loss, especially if it is related to deficiencies or imbalances. Substances such as Vitamins A, B7 (Biotin), D, E, omega fatty acids, iron, zinc, and saw palmetto can play a supportive role in hair health when combined with a comprehensive approach that includes a healthy diet, proper hair care, and addressing any potential medical issues.<sup>[15]</sup>

## CONCLUSION

The field of hair cosmetics for men has evolved significantly, reflecting broader cultural shifts and advancements in technology. From basic cleansing products to sophisticated treatments for hair loss, the range of available products has expanded to meet diverse needs and preferences. Emerging trends such as natural and organic formulations, personalized hair care, and changing grooming norms are shaping the future of men's hair care. Continued research and innovation will be crucial in addressing safety concerns and enhancing the efficacy of hair cosmetics.

Hair holds significant importance in a man's life, influencing self-expression, cultural and social identity, attractiveness, and psychological well-being. Its role extends far beyond simple esthetics, impacting how men perceive themselves and how they are perceived by others. Whether through personal grooming, societal expectations, or cultural norms, hair plays a crucial role in shaping a man's identity and experience. Understanding these dimensions highlights the complex relationship between hair and personal self-concept, and underscores the broader implications of this often-overlooked aspect of human appearance.

## Ethical Approval

The Institutional Review Board approval is not required.

## Declaration of patient consent

Patient's consent was not required as there are no patients in this study.

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## Conflicts of interest

There are no conflicts of interest.

## Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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