

The Evidence Behind Topical Hair Loss Remedies on TikTok



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- With terabytes of information at their fingertips, patients often turn to social media for hair loss advice. Many recommended therapies lack evidence-based research, and some may even be harmful to patients or delay time to efficacious treatments.

With the rise of social media influence and ease of accessibility of information, patients often encounter and implement hair loss advice from sources other than medical professionals. Many of these recommendations include herbs and other natural extracts (ie, rosemary oil, rice water, onion juice, garlic gel) as treatments. This review aims to investigate the evidence-based research behind these claims.

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Hair loss is an exceedingly common chief concern in outpatient dermatology clinics. An estimated 50% of males and females will experience androgenetic alopecia.¹ Approximately 2% of new dermatology outpatient visits in the United States and the United Kingdom are for alopecia areata, the second most common type of hair loss.² As access to dermatology appointments remains an issue with some studies citing wait times ranging from 2 to 25 days for a dermatologic consultation, the ease of accessibility of medical information on

social media continues to grow,³ which leaves many of our patients turning to social media as a first-line source of information. As dermatology resident physicians, it is essential to be aware of popular dermatologic therapies on social media so that we may provide evidence-based opinions to our patients.

Remedies for Hair Loss on Social Media

Many trends on hair loss therapies found on TikTok focus on natural remedies that are produced by ingredients accessible to patients at home and over the counter, which may increase the appeal due to ease of treatment.

Rosemary Oil—The top trends in hair loss remedies I have come across are rosemary oil and rosemary water. Rosemary (*Rosmarinus officinalis*) has been known to possess antimicrobial and antioxidant properties but also has shown enhancement of microcapillary perfusion, which could explain its role in the prevention of hair loss and aiding hair growth in a similar mechanism to minoxidil.^{4,5} Unlike many other natural hair loss remedies, there are randomized controlled trials that assess the efficacy of rosemary oil for the treatment of hair loss. In a 2015 study of 100 patients with androgenetic alopecia, there was no statistically significant difference in mean hair count measured by microphotographic assessment after 6 months of treatment in 2 groups treated with either minoxidil solution 2% or rosemary oil, and both groups experienced a significant increase in hair count at 6 months ($P < .05$) compared with baseline and 3 months.⁶ Additionally,

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essential oils, including a mixture of thyme, rosemary, lavender, and cedarwood oils for alopecia were superior to placebo carrier oils in a posttreatment photographic assessment of their efficacy.⁷

Rice Water—The use of rice water and rice bran extract is a common hair care practice in Asia. Rice bran extract preparations have been shown in vivo to increase the number of anagen hair follicles as well as the number of anagen-related molecules in the dermal papillae.^{8,9} However, there are limited clinical data to support the use of rice water for hair growth.¹⁰

Onion Juice—Sharquie and Al-Obaidi¹¹ conducted a study comparing crude onion juice to tap water in 38 patients with alopecia areata. They found that onion juice produced hair regrowth in significantly more patients than tap water ($P < .0001$).¹¹ The mechanism of crude onion juice in hair growth is unknown; however, the induction of irritant or allergic contact dermatitis to components in crude onion juice may stimulate antigenic competition.¹²

Garlic Gel—Garlic gel, which is in the genus *Allium*, produces organosulfur compounds that provide antimicrobial and anti-inflammatory benefits.¹² Additionally, in a double-blind randomized controlled trial, garlic powder was shown to increase cutaneous capillary perfusion.⁵ One study in 40 patients with alopecia areata demonstrated garlic gel 5% added to betamethasone valerate cream 0.1% was statistically superior to betamethasone alone in stimulating terminal hair growth ($P = .001$).¹³

Limitations and Downsides to Hair Loss Remedies on Social Media

Social media continues to be a prominent source of medical information for our patients, but most sources of hair content on social media are not board-certified dermatologists. A recent review of alopecia-related content found only 4% and 10% of posts were created by medical professionals on Instagram and TikTok, respectively, making misinformation extremely likely.¹⁴ Natural hair loss remedies contrived by TikTok have little clinical evidence to support their claims. Few data are available that compare these treatments to gold-standard hair loss therapies. Additionally, while some of these agents may be beneficial, the lack of standardized dosing may counteract these benefits. For example, videos on rosemary water advise the viewer to boil fresh rosemary sprigs in water and apply the solution to the hair daily with a spray bottle or apply cloves of garlic directly to the scalp, as opposed to a measured and standardized percentage. Some preparations may even induce harm to patients. Over-the-counter oils with added fragrances and natural compounds in onion and garlic may cause contact dermatitis. Finally, by using these products, patients may

delay consultation with a board-certified dermatologist, leading to delays in applying evidence-based therapies targeted to specific hair loss subtypes while also incurring unnecessary expenses for these preparations.

Final Thoughts

Hair loss affects a notable portion of the population and is a common chief concern in dermatology clinics. Misinformation on social media continues to grow in prevalence. It is important to be aware of the hair loss remedies that are commonly touted to patients online and the evidence behind them.

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