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Social Media's Impact on Hair Loss Information Dissemination: A Systematic Review

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ABSTRACT

Objective: This systematic study examines the quality of hair loss information disseminated on social media platforms, as well as its potential effects on users' decision-making, emotional states, and societal attitudes toward hair loss.

Methods: A thorough search of MEDLINE and PubMed databases was conducted until May 13th, 2023 to identify research into the role of social media in disseminating hair loss knowledge.

Results: The systematic review encompasses 11 studies investigating platforms such as Facebook, Twitter, Instagram, TikTok, and YouTube. We discovered significant variations in the quality of hair loss-related information on social media. The DISCERN scores ranged from 1.47 to 2.66, while the percentage of videos/posts created by dermatologists ranged from 0 to 18.9%. While certain reliable content from medical professionals was present, there was an overabundance of personal anecdotes, unproven remedies, and recommendations based on personal experiences. The potential impacts of such information are wide-ranging, potentially influencing user decision-making and societal perceptions. Misinformation and subpar content could also heighten distress and anxiety among individuals seeking hair loss solutions.

Conclusion: This review highlights the need for enhanced content quality on social media platforms. It advocates for greater involvement of medical professionals, stricter adherence to evidence-based information, and the cultivation of critical thinking skills among users.

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INTRODUCTION

The internet has become a widely used source for health information, including hair loss. Social media platforms – interactive digital applications where users generate and share content – have also become important channels for sharing health information.[1] Platforms such as Facebook, Instagram, YouTube, Twitter, and, more recently, TikTok serve as communities where people share personal experiences, seek advice, and support each other with various health concerns, including hair loss.[2]

However, social media's nature as a democratizer of information has its drawbacks. The lack of content supervision can spread misinformation and unsubstantiated or incorrect health-related content, which can contribute to misinformation, unhealthy habits, and negative health outcomes.[4] Misinformation about hair loss can arise from ineffective treatments, incorrect understandings, and unrealistic treatment expectations. This can lead to increased mental health distress and hinder effective treatment.[5] Additionally, the commercial interests of companies marketing hair loss products and treatments can further complicate and potentially distort the information available on these platforms.[6]

Despite these concerns and the growing popularity of social media as a health information source, its impact on hair loss education still needs to be studied. This research gap emphasizes the need for a comprehensive study of the quality, content, and impact of hair loss information on social media.

This systematic study aims to answer two important questions: (1) How reliable is hair loss information on social media? (2) What potential effects can be attributed to this information?

MATERIALS AND METHODS

A comprehensive search was conducted on Pubmed/MEDLINE databases for peer-reviewed articles up to May 13th, 2023, using relevant keywords such as "hair loss," "social media," and "alopecia", resulting in a total of 38 articles. The screening and review process followed the Preferred Reporting Items for Systematic and Meta-Analysis (PRISMA) guidelines. Two independent reviewers (RZE and NMB) screened articles based on titles and abstracts to exclude duplicate and non-English articles, yielding 16 reports. Of these, 11 articles were included in our analysis. Subsequently identified studies were then subjected to full-text review. See Table 1 for inclusion and exclusion criteria.

TABLE 1.

Inclusion and Exclusion Criteria		
	Inclusion Criteria	Exclusion Criteria
Study Type	Randomized controlled trials, case-control studies, cohort studies (prospective or retrospective), cross-sectional studies, review articles, and case series.	Conferences abstracts, editorials, and non-research articles.
Topic	Peer-reviewed articles that assessed hair loss or scalp alopecia in social media.	Studies that did not adequately evaluate the relationship between social media and hair loss.

RESULTS

A summary of the findings from 11 selected studies is presented, shedding light on the quality of hair loss-related information on various social media platforms and its potential impacts. The studies revealed considerable heterogeneity in content reliability, accuracy, and comprehensiveness.

What is the quality of hair loss-related information on social media platforms?

"Characterizing and assessing the reliability of TikTok's most viewed alopecia-related videos" revealed a significant variance in content reliability. While videos shared by physicians were universally considered reliable, only 56% of those posted by non-physicians met the same criterion. Despite board-certified dermatologists achieving the highest mean DISCERN scores (a recognized measure of information quality) at 2.33, compared to 2.13 among non-dermatologist physicians, the overall average score across all videos remained relatively low. This suggests that TikTok's potential as a tool for patient education has yet to be fully realized. The low overall DISCERN scores on TikTok may also be due to the platform's focus on short and quick clips, making it difficult to convey accurate and comprehensive information, even for dermatologists. Notably, videos produced by non-physicians garnered even lower scores. Barbers/hair stylists, self-proclaimed hair experts, and patients exhibited the lowest mean DISCERN scores, recording 1.38, 1.40, and 1.40, respectively. Average scores falling within the range of 1.8 to 2.5 are categorized as 'poor', while scores below 1.8 are classified as 'very poor,' in contrast to the 'excellent' range of scores from 4.2 to 5.0.

Comparable results were obtained from the research conducted in "The Utilization of YouTube as a Resource for Hair Loss Treatments." The average DISCERN score across all videos was 2.66. Despite the abundance of influencers, companies, and advertisers, a mere 18.9% of the videos showcased board-certified dermatologists. Among the 90 analyzed videos, each averaged 1,202,672 views. Pharmaceuticals, including minoxidil and finasteride, were the most frequently mentioned treatments (30% of videos), followed by nutraceuticals (20%). This extensive viewership underscores social media's potential role in shaping public understanding and attitudes toward hair loss. However, misleading or inaccurate information can foster misconceptions about available treatments, perpetuate societal stigmas around hair loss, and influence public discourse.

Amplifying these concerns, the study "Fake News in Dermatology: Findings from an Observational, Cross-Sectional Study" revealed significant amounts of inaccurate or confusing material concerning hair loss on various platforms, including Facebook, Twitter, Pinterest, and Reddit. Roughly 40% of content related to alopecia was classified as precise, 20% confusing, and 40% imprecise. Alarmingly, imprecise content often attracted more followers, suggesting that misinformation can readily gain momentum.

Similarly, the analysis conducted in "Hair Loss Treatment Information on Facebook: Content Analysis and Comparison with Other Online Sources" revealed a prevalence of product advertisements and promotions for hair restoration clinics, with a scarcity of posts grounded in substantial medical evidence. Merely 3% to 13% of hair loss treatment posts had the support of medical evidence, and user engagement with such content remained low. The limited user engagement with evidence-based posts underscores the urgent need for more comprehensive health literacy promotion efforts.

"What's Being Recommended to Patients on Social Media? A Cross-Sectional Analysis of Alopecia Treatments on YouTube" offered a slightly different perspective, indicating that videos created by physicians are more inclined to adhere to evidence-based guidelines.

Regarding emotional and psychological impacts, the study "The Bald Emoji Effect: Alopecia and Twitter." Out of 808 alopecia-related tweets, 329 were categorized as personal experiences, with the majority describing alopecia as "confidence-wrecking." The 344 tweets addressing alopecia treatment options, such as wigs, hair transplants, or minoxidil, further underscore this trend. These personal narratives, coupled with potentially misleading treatment information, could exacerbate distress and anxiety in individuals seeking effective hair loss solutions.

Lastly, the study titled "An Analysis of Alopecia-Related Content on Instagram and TikTok" found that only 4% of the hair loss related posts analyzed on Instagram were created by medical professionals, while 10% of the hair posts analyzed on TikTok

TABLE 2.

Summary of Studies on Hair Loss-Related Information on Social Media

Title	Author/Year	Type of Study	Social Media Platform	Hair Loss Type	Conclusion
An Analysis of Alopecia Related Content on Instagram and Tiktok[7]	Laughter M et al, 2022	Cross-sectional analysis	Instagram, TikTok	General Alopecia	Most skincare and beauty content on Instagram and TikTok is from non-medical influencers, not board-certified dermatologists.
The Evidence Behind Topical Hair Loss Remedies[8]	Azhar AF et al, 2023	Review article	TikTok	General Alopecia	Many natural hair loss remedies on Tiktok lack clinical evidence and standardized dosage, so their benefits are questionable.
Alopecia Areata And Pattern Hair Loss On Social Media – Current Public Interest Trends And Cross-Sectional Analysis Of YouTube And Tiktok Contents[9]	Gupta AK et al, 2023	Cross-sectional analysis, quantitative and qualitative analysis.	YouTube, TikTok	Alopecia areata, Pattern hair loss (androgenic alopecia)	Alopecia areata (AA) videos on TikTok with female subjects had high engagement. Healthcare provider videos on YouTube had high DISCERN scores compared with TikTok.
Characterizing and Assessing the Reliability of Tiktok's Most Viewed Alopecia-Related Videos[10]	Nguyen B et al, 2023	Observational study, cross-sectional analysis	Tiktok	General Alopecia	Most Tiktok videos were created by patients. Out of all the videos posted, those made by physicians were deemed more reliable than 56% of those made by non-physicians. Board-certified dermatologists were found to have the highest average DISCERN scores.
Hijab and hair loss: a cross-sectional analysis of information on YouTube[11]	Shareef SJ et al, 2023	Cross-sectional analysis	YouTube	Hijab-related alopecia	Hijab-related alopecia videos lacked thorough explanations and scientific evidence for recommended solutions. Personal experiences were cited without sources.
What's Being Recommended to Patients on Social Media? A Cross-Sectional Analysis of Alopecia Treatments on Youtube[12]	Killion L et al, 2022	Cross-sectional analysis	YouTube	Alopecia areata (AA); Androgenetic alopecia (AGA); Traction alopecia (TA); Central centrifugal cicatricial alopecia (CCCA)	Most videos (51%) were made by patients or bloggers, while only 18% were made by dermatologists. Physician-made videos have more evidence-based treatment suggestions. 46% of videos disclosed sponsorships with branded products.
Hair Loss Treatment Information on Facebook: Content Analysis and Comparison[13]	Gupta AK et al, 2021	Content analysis, Comparison study	Facebook	General alopecia	Hair loss pages on Facebook mostly advertise clinics and products, or fundraise for alopecia organizations. But only a few posts (3%-13%) have medical evidence for treatment, and user engagement is usually low.
Fake News in Dermatology. Results from an Observational, Cross-Sectional Study[14]	Iglesias-Puzas A et al, 2021	Observational study, Cross-sectional analysis	Facebook, Pinterest, Twitter, Reddit	General alopecia	Out of all the content related to alopecia, 40% was classified as accurate, 20% was considered confusing, and 40% was deemed inaccurate. Unfortunately, content that was marked as inaccurate tended to attract more followers than accurate or confusing content. This suggests that false information can spread quickly.
Analysis of YouTube Hair Loss Treatment Information: What Makes for Engaging Content?[15]	Gukpta Ak et al, 2020	Observational study, Cross-sectional analysis	YouTube	General alopecia	Videos that receive a lot of viewer engagement may provide helpful information for making treatment decisions. However, some of these videos may have a bias towards promoting dermatology and hair restoration clinics. Videos made by hair restoration experts are generally trustworthy but could benefit from including links to additional sources for even more reliable information.
The Bald Emoji Effect: Alopecia and Twitter[16]	Asfour L et al, 2021	Observational study, Cross-sectional analysis	Twitter	Alopecia areata, chemotherapy-induced, androgenetic alopecia, traction alopecia, cicatricial alopecia	The tweets mainly centered on advertising hair growth products, wigs, and hair transplantation procedures. Personal experiences shared were emotionally impactful and vulnerable. However, there was some misleading treatment information that might alter patients' expectations of conventional therapies.
The Utilization of YouTube as a Resource on Hair Loss Treatments[17]	Behbabhani S et al, 2020	Cross-sectional analysis	YouTube	General Alopecia	Out of all the authors, YouTube influencers made up 37.8%, while only 18.9% were certified dermatologists. Companies or advertisers made up 15.6% of the authors.

TABLE 3.

Average DISCERN Scores Across Various Studies

Title	Author/Year	Platform	DISCERN Scores
Alopecia Areata And Pattern Hair Loss on Social Media – Current Public Interest Trends and Cross-Sectional Analysis of Youtube and Tiktok Contents	Gupta AK et al, 2023	Tiktok and YouTube	DISCERN Healthcare providers: 2.15 DISCERN Non healthcare providers: 1.47
Characterizing and Assessing the Reliability of Tiktok's Most Viewed Alopecia-Related Videos	Nguyen B et al, 2023	Tiktok	DISCERN Physicians: 2.22 DISCERN Non Physicians 1.52
The Utilization of YouTube as a Resource on Hair Loss Treatments	Behbabhani S et al, 2020	YouTube	DISCERN Overall: 2.66

TABLE 4.

Percentage of Content Created by Medical Professional Across Various Studies

Title	Author/Year	Platform	Percentage of Posts by Medical Professionals
An Analysis of Alopecia Related Content on Instagram and Tiktok	Laughter M et al, 2022	Instagram and Tiktok	4% of posts created by medical professionals on Instagram. 10% of posts created by medical professionals on TikTok
Hijab and Hair Loss: A Cross-Sectional Analysis of Information on YouTube	Shareef SJ et al, 2023	YouTube	0% of videos created by dermatologists
What's Being Recommended to Patients on Social Media? A Cross-Sectional Analysis of Alopecia Treatments on Youtube	Killion L et al, 2022	YouTube	18% of videos created by dermatologists
The Utilization of YouTube as a Resource on Hair Loss Treatments	Behbabhani S et al, 2020	YouTube	18.95% of videos created by dermatologists

were created by medical professionals. None of the top posts was created by board-certified dermatologists. The content, primarily generated by influencers and patients lacking medical expertise, raises concerns about information accuracy and reliability. This overemphasis on non-expert perspectives can potentially propagate misinformation and incomplete knowledge, impacting individuals seeking evidence-based hair loss treatments. It underscores the critical necessity for evaluating and verifying information derived from social media.

In summary, although social media does have the potential to showcase reliable and high-quality information regarding hair loss, there exists an urgent requirement for enhancements in content quality. Achieving this could involve increased engagement of medical professionals in content creation, more stringent adherence to evidence-based information and referencing standards, and a focused effort to cultivate critical thinking and evaluation skills among users.

DISCUSSION

The Role of Artificial Intelligence and Digital Health Platforms

Our findings align with the global trend of using digital health platforms for health information, thereby reshaping patient expectations. Recent research, exemplified by Young et al (2022), indicates that as patients become increasingly comfortable with online consultations, telemedicine, and artificial intelligence (AI)-driven health solutions, they may reduce the frequency of their office visits.[18] The change in online accessibility emphasizes the need for innovative approaches to providing healthcare to tech-savvy individuals.

While the advantages of ChatGPT and other AI-based virtual assistants range from using it for medical education or in patient monitoring, it is also limited in its ability to give accurate and reliable results.[19] As AI continues to expand in this field, rigorous quality control procedures are imperative to ensure the reliability of information. Implementing measures such as fact-checking, keeping up with the latest scientific advancements, and regulatory oversight can mitigate the risks of misinformation and enhance patient safety.[19]

These platforms also raise questions about the evolving roles of healthcare practitioners. As individuals increasingly embrace digital health technologies, healthcare providers may need to incorporate these tools into their practices. This could entail advising patients on the judicious use of health information from digital sources, verifying online content, and engaging with these platforms to provide accurate, authoritative content.

These findings emphasize the need for a multistakeholder strategy to enhance online health information within the context of our analysis of hair loss-related content on social media. This endeavor necessitates the involvement of medical specialists, social media platforms, AI developers, regulatory bodies, and users. Collaborative efforts among these stakeholders can amplify the potential of health information dissemination

through social media and AI, while minimizing the propagation of disinformation and substandard material.

Limitations of this Review

Our comprehensive systematic review does encompass several limitations. We restricted our scope to English-language research, potentially excluding perspectives from non-English social media platforms or communities. The research we evaluated may have omitted certain contextual elements. Factors like algorithms, user demographics, and temporal dynamics, such as trending topics and current events, influence the transmission of social media information. Although these factors could impact user engagement and information propagation, they might not have been fully accounted for in our analysis.

Lastly, the swift change in social media trends and platforms suggests that our evaluation might not precisely capture the landscape of hair loss-related material on social media. Given these constraints, future studies should encompass a broader array of platforms and languages, delve into social media algorithms and user demographics, and directly measure the effects on users.

CONCLUSION

Health information, particularly about hair loss, is widely sought after on social media platforms. This systematic analysis examines hair loss-related content across numerous platforms, uncovering significant disparities in reliability, accuracy, and comprehensibility. Moreover, this review sheds light on how such information profoundly influences patient decision-making processes, emotional well-being, and the broader societal perception of hair loss.

Given the perpetual evolution of social media platforms and their substantial potential as health information conduits, subjecting them to continuous monitoring and research is imperative. A subsequent study should adopt a broader scope, encompassing an array of platforms and languages, while delving into the assessment of social media algorithms and user demographics. Furthermore, direct measurement of the effects on users is crucial.

This systematic review emphasizes the need for collaboration among healthcare professionals, researchers, social media platforms, and users. This collaborative effort aims to optimize the health information and support capabilities of social media while minimizing the dissemination of misinformation and substandard content.

DISCLOSURES

Antonella Tosti is a consultant for DS Laboratories, Monat Global, Almirall, Thirty Madison, Leo Pharmaceuticals, Bristol Myers Squibb, and P&G; and is a compensated consultant/advisory board member for Eli Lilly and Company. The other authors have no conflicts of interest to disclose.

Data Availability: All data generated or analyzed during this study are included in this article. Further inquiries can be directed to the corresponding author.

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