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The Sunscreen Backlash: Characterizing Contemporary Sunscreen Misinformation on Social Media to Inform Dermatologic Counseling

Background: Sunscreen misinformation is increasingly visible on social media and may influence patient attitudes toward photoprotection. Although dermatologists are aware of general sunscreen hesitancy, they may be less familiar with the specific narratives circulating on high-engagement platforms, including claims that promote unprotected sun exposure. This study aimed to characterize contemporary misinformation about sunscreen and sun exposure on TikTok and Instagram to inform dermatologic counseling.

Methods: We conducted a thematic content analysis of publicly available TikTok and Instagram posts related to sunscreen, sun protection, SPF, and sun exposure. Posts were included if they were English-language, publicly available, posted on or after January 1, 2020, and contained misinformation about sunscreen or sun exposure. Posts were coded for platform, misinformation theme, tone of delivery, scientific citation use, and engagement metrics. Posts could contain more than one misinformation theme. Engagement metrics were summarized using medians and interquartile ranges due to skewed distributions. Scientific citation use was coded as present when a post displayed, named, linked, or otherwise clearly referenced a specific scientific study or article.

Results: A total of 269 posts met inclusion criteria, including 134 TikTok videos and 135 Instagram posts. The most common misinformation theme was toxic ingredients, identified in 175 posts (65.1%), followed by natural alternatives in 107 posts (39.8%), therapeutic sun exposure in 84 posts (31.2%), claims that sunscreen causes cancer in 79 posts (29.4%), and conspiracy-related claims in 48 posts (17.8%). Additional themes included vitamin D-related claims in 22 posts (8.2%) and claims minimizing sunscreen need among individuals with darker skin tones in 3 posts (1.1%). Scientific citations were referenced in 48 posts (17.8%). Engagement was substantial, with included posts generating 188.2 million cumulative views, 8.2 million likes, 174,845 comments, and 2.3 million shares. Median views per post were 99,200 (IQR, 39,600–466,000).

Conclusion: High-engagement sunscreen and sun exposure misinformation on TikTok and Instagram centered around ingredient toxicity, natural alternatives, therapeutic sun exposure, and cancer-related claims. These themes frequently overlapped and were often presented through alarmist or wellness-focused messaging. Understanding the specific themes and language used in viral photoprotection misinformation may help dermatologists anticipate patient concerns and provide more targeted, evidence-based counseling.