

DermTok: Who's Talking Sun? A Cross-Sectional Analysis of Sun Protection Content on TikTok

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ABSTRACT

Despite the widespread interest in dermatology on TikTok, studies have shown most related videos are not produced by board-certified dermatologists (BCDs) or other health professionals. To see if this trend extended to sun protection, we examined TikTok videos associated with sun safety to determine the proportion produced by BCDs. From August 25, 2023, to August 27, 2023, investigators input the following hashtags into the TikTok search bar: #sunscreen, #sunprotection, #spf, #skincancer, and #skinprotection. The top 100 videos in each category were analyzed and categorized based on the content creator. Additionally, we assessed whether videos explicitly addressed skin of color (SOC). Of the analyzed videos, only 16.6% originated from BCDs. Beauty bloggers/bloggers were the most prevalent creators in this category (38.7%), followed by patients/consumers (33.7%). Only 2.8% of the videos pertained to SOC patients. This highlights a gap in the type of educational content generated by dermatologists on TikTok, with sun safety being a potential subject to target within social media. Additionally, the small representation of videos addressing SOC patients underscores the need for more diverse and inclusive educational skincare content on TikTok.

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INTRODUCTION

TikTok provides a platform for users to create and watch short videos covering diverse topics, including the field of dermatology. With a user base of over one billion, TikTok has increasingly been a space for individuals to seek health-related information.¹ While TikTok can be beneficial in providing increased access to medical information, the rise of medical misinformation is a potential risk when patients rely on social media as a health information source.^{2,3} Medical misinformation is also prevalent in dermatology-related social media.⁴

Previous studies on TikTok and dermatology have noted the rise of "skinfluencers" as a major source of skincare content. Some of these "skinfluencers" may create inaccurate content, touting ineffective treatments or even promoting behaviors that lead to permanent skin damage.^{5,6} Physicians have warned of the potential dangers of having unlicensed individuals being the primary source of skin-related information online.

For example, some creators on TikTok endorse a "highlighter method" of applying sunscreen to create a natural contour from tanning skin. This trend can promote behaviors that increase the risk of skin cancer. Another TikTok trend involves at-home methods of mole removal using acidic chemicals, razors,

and other household objects. Not only does this increase the risk of direct tissue damage but could remove evidence of a potentially malignant lesion. In addition, the pursuit of alternative treatments seen online may cause a delay in care for individuals who have health conditions that would benefit from early intervention.

Limited studies have analyzed sources of TikTok videos associated with sun safety and skin cancer, the most prevalent form of cancer in the United States.⁷ Therefore, we sought to determine the proportion of videos produced by board-certified dermatologists (BCDs) on these topics.

MATERIALS AND METHODS

We conducted a cross-sectional study between August 25, 2023, to August 27, 2023, on TikTok. The investigators input the following hashtags into the TikTok search bar: #sunscreen, #sunprotection, #spf, #skincancer, and #skinprotection. The top 100 videos in each hashtag category were analyzed for 500 videos. These videos were then categorized based on the type of content creator: dermatologist, dermatology resident, non-dermatologist physician, physician assistant, nurse practitioner, registered nurse, esthetician, patient/consumer, beauty blogger, skincare company, and others. For each video, we documented

the number of views each video had and whether the video was a sponsored post. Additionally, we assessed whether videos explicitly addressed skin of color (SOC), as determined by the terms “black skin,” “brown skin,” “dark/darker skin,” or “skin of color” either mentioned in the video or included in the caption. Descriptive analysis was performed to determine the type of content created.

RESULTS

Creators

Of the analyzed videos, only 16.6% originated from BCDs. Beauty bloggers were the most prevalent creators in this analysis (38.7%), followed by patients/consumers (33.7%). Beauty bloggers were the top creators for most hashtags except for #skincancer and #spf. For #skincancer, patients/consumers (44%) were the top creators, followed by BCDs (39%). Beauty bloggers comprised only 1% of the #skincancer videos. For #spf, beauty bloggers and patients/consumers were tied for the top creators (33% each). BCDs created 18% of the #spf videos. For #skinprotection, #sunprotection, and #sunscreen, beauty bloggers were the most common creators (Table 1).

Views

In total, the videos analyzed in this study amassed 981.5 million views (Figure 1). Beauty bloggers held most of the views (51.8%), followed by patients/consumers (21.4%). Videos created by BCDs held 12.7% of views. 14.7% of the views were by the remaining creators (dermatology residents, non-dermatologist physicians, nurse practitioners, registered nurses, physician assistants, estheticians, skin care companies, and other creators).

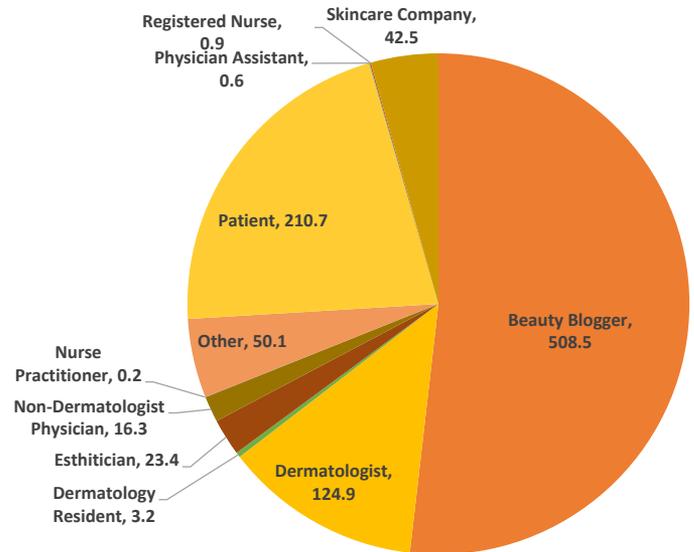
Sponsored Posts

Only twenty-one of all videos were sponsored (4.2%). Thirteen of the sponsored videos were from beauty bloggers (62%), seven were by BCDs (33%), and one was by an esthetician (5%). All hashtags except #skincancer had at least two sponsored videos in the top 100 videos viewed.

TABLE 1.

Sun-Protective TikTok Content By Creator Type and Hashtag						
Provider	Total	#skincancer	#skinprotection	#spf	#sunprotection	#sunscreen
Dermatologist	16.60%	39.00%	1.00%	18.00%	16.00%	9.00%
Dermatology Resident	0.80%	--	--	1.00%	3.00%	--
Non-Dermatologist Physician	4.60%	7.00%	9.00%	--	6.00%	1.00%
Nurse Practitioner	0.20%	--	--	--	1.00%	--
Registered Nurse	0.60%	--	3.00%	--	--	--
Physician Assistant	0.60%	3.00%	--	--	--	--
Patient	20.20%	44.00%	4.00%	33.00%	8.00%	12.00%
Beauty Blogger	39.00%	1.00%	52.00%	33.00%	43.00%	66.00%
Esthetician	3.80%	2.00%	4.00%	8.00%	3.00%	2.00%
Skincare Company	8.80%	3.00%	17.00%	7.00%	13.00%	4.00%
Other	4.80%	1.00%	10.00%	--	7.00%	6.00%

FIGURE 1. Views of sun-protective TikTok content by creator type (in millions).



Skin of Color

Only sixteen videos met our criteria for creating content relating to skin of color (3.2%). None of these videos were sponsored. Ten videos were by beauty bloggers (62.5%), three videos by patients (19%), two videos by BCDs (12.5%), and one video by an esthetician (6.25%).

DISCUSSION

Various dermatology-related topics are growing in popularity on TikTok. With popular hashtags including #skincare, #acne, and #eczema, the platform has attracted a diverse community composed of patients, BCDs, other healthcare professionals, estheticians, beauty bloggers, and more.⁸ Multiple studies highlight that a majority of dermatology-related content on the platform is not created by BCDs.^{5,6,9,10} This study had similar

findings to previous studies that show that most dermatology-related content are produced by other non-medical creators.^{6,9,10} This reiterates that some of the largest voices creating dermatology-related social media content come from outside the medical profession, posing a risk of inaccurate information.^{6,10}

An earlier study by our group reported that for TikTok content on common skin diseases such as acne, eczema, rosacea, and psoriasis, BCDs only composed 16.8% of creators.¹⁰ This study found that a similar proportion of BCDs created content in hashtags concerning sun protection (16.6%). For acne, eczema, and psoriasis, most posts were created by non-BCDs. The #rosacea was the only skin disease where most creators were BCDs. Similarly, most of the videos we analyzed were created by beauty bloggers and patients/consumers.

Interestingly, a 2022 study found that 18.7% of TikTok videos with #skincancer contained pro-tanning messaging and 15.6% of videos included misinformation.¹¹ With 72% of internet users accessing healthcare information online, making accurate health information easily searchable and accessible is important.¹¹ TikTok is the most popular web domain, surpassing Google in February 2021. For younger generations, TikTok is the preferred search engine, emphasizing the importance of accurate medical information being available online. Therefore, the educational role BCDs can hold online should not be underestimated.

Despite this, BCDs were not the top creators for any of the hashtags analyzed. The top creators of hashtags #skinprotection, #sunprotection, and #sunscreen were beauty bloggers. Patients/consumers were tied with beauty bloggers for the top creator of #spf, and patients/consumers were the top creators of #skincancer. Of the hashtags analyzed, BCDs were the second top creators for the #skincancer and #sunprotection. While it is important for BCDs to discuss diseases such as skin cancer, associated topics such as disease prevention also hold importance. When looking for sun-protective information, users may not be directly thinking of skin cancer prevention, but rather, preventing photoaging, freckling, or sunburns. To reach a wider audience, BCDs who create online content regarding sun protection could consider increasing viewership by using more diverse hashtags, including some of the hashtags used in this study.

Overall, there is a general lack of BCDs on TikTok discussing sun protection, despite our team and other researchers noting the untapped potential of this platform for public health interventions.^{10,13} The hashtags assessed in our study regarding sun protection and skin cancer were used primarily by individuals other than BCDs, further emphasizing the challenge of ensuring the quality, accuracy, and reliability of information on this platform. BCDs must leverage this platform as an educational tool for promoting safe skin practices and

sharing accurate information with the public. A proactive step to facilitate this process may entail more engaging content and more frequent utilization of the hashtags assessed in our study by BCDs, such as #sunscreen and #skinprotection. BCDs can use their expertise and provide evidence-based data to foster community engagement, help prevent the distribution of misinformation, and ultimately bridge the information gap that currently exists.

Another gap noted in our study related to SOC-focused content regarding skin cancer and sun protection. It is well-known that there is a deficit of SOC content in medical school curricula, textbooks, and dermatology residencies.¹⁴⁻¹⁷ Our study showed that less than 3% of the TikTok videos found were related to SOC. Another study of SOC on Instagram noted only 10% of posts were related to SOC, even among BCD content creators. However, the authors saw that posts with SOC-related content had greater user engagement.¹⁸ This may highlight a potential gap in real-life SOC dermatological information that is reflected online. Overall, there is a lack of content regarding sun protection and skin cancer for SOC patients. This is important because beyond skin cancer, sun protection is also important in preventing pigmentary disorders such as post-inflammatory hyperpigmentation, which affect SOC patients.

Lastly, sponsored posts are an additional aspect of TikTok that should be considered when addressing the issue of health information. When content creators create sponsored content, there may be uncertainty surrounding whether the creator is promoting the product solely for personal financial interest versus genuinely endorsing the benefits of the product. However, in our study, we found only a minority of the included videos on sun protection had sponsored content (4.2%).

Limitations to this study include the short time frame in which data was collected and the review of only the top 100 videos found in each hashtag. Due to the fluctuation of online viewership, this study captures a snapshot of the type of content present online and may be influenced by viral trends surrounding the time of data collection.

CONCLUSION

BCDs are largely underrepresented in discussions surrounding sun protection and skin cancer on TikTok. BCDs should consider creating more content related to sun protection and skin cancer on TikTok to fill this gap. Increasing dermatologists' presence on TikTok can potentially help combat misinformation and promote sun-protective habits.

DISCLOSURES

The authors declare no financial interests, affiliations, or conflicts of interest.

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