

Acne Information on Instagram: Quality of Content and the Role of Dermatologists on Social Media

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ABSTRACT

While it is evident that many patients turn to social media for information about skin care, the quality and content of available information are not well characterized. In this study, we investigated acne-related information available on Instagram, one of the most popular social media platforms. We searched for the “top” Instagram posts using the hashtag #acne and characterized them based on their source and content. Posts were excluded if they were unrelated, not in English, or duplicates. 900 posts were assessed, and 439 were included. A majority of the content (258 posts) was generated by influencers, followed by retailers (97) and non-dermatologist providers (67). Dermatologists were responsible for 17 posts, accounting for <4% of the included content. 124 separate ingredients were mentioned as potential acne treatments. The ingredients with the most mention were beta-hydroxy acids (eg, salicylic acid), alpha-hydroxy acids (eg, glycolic acid), vitamin C, niacinamide, and sunscreen. 254 posts recommended at least one specific intervention, and among these posts only 11% referenced a treatment with grade A evidence based on American Academy of Dermatology guidelines. A vast amount of content is readily available to patients on this platform. This content is heterogeneous in message and quality, and dermatologists are responsible for only a small portion of it.

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INTRODUCTION

Common among adolescents and adults, acne vulgaris accounts for a significant portion of dermatology appointments.¹ While there are a variety of safe, effective, and evidence-based treatments available, there are also numerous products for acne marketed on social media that are untested and/or show no benefit in treating acne vulgaris. Even for treatments with known efficacy, quality information can be difficult to locate on social media. A study of YouTube content regarding isotretinoin, a medication with strong evidence in treating acne vulgaris, found that videos were heterogeneous in terms of information quality, with the majority of videos in the poor to fair range.² Only a minority of adults in this country are proficient in health literacy, suggesting that many patients may have difficulty differentiating sources with varying levels of information quality.³ In order to fully harness the potential

of social media as a tool for educating our patients, we must first understand the current landscape of skin-related content available.

METHODS

In this study, we sought to characterize the acne-related information present on one of the most popular social media platforms: Instagram. We searched for the “top” Instagram posts using the hashtag #acne and analyzed them based on their source and content. Posts were excluded if they were unrelated to acne, not in English, or duplicates. In April 2020, 900 top posts were assessed and 439 were included. Screenshots were obtained and stored for future reference. “Like” and “follower” counts were compared with single factor ANOVA applied with the Microsoft Excel data analysis ToolPak.

TABLE 1.

Source and Content of Top Instagram Posts for #Acne

Content Source	Scope of Influence			Type of Content					
	# Posts (%)	Mean Followers	Mean Likes	Etiology of Acne	Services Provided	Commercial Products	Home Remedies	Behavioral Intervention	Acne Awareness
Influencer	258 (59%)	47,836	836	6	2	123	33	14	80
Retailer	97 (22%)	78,446	753	0	0	88	0	9	0
Dermatologist	17 (4%)	30,796	250	2	9	4	1	1	0
Other Provider	67 (15%)	30,665	491	3	37	17	1	7	2
Total	439	51,319	742	11	48	232	35	31	82

TABLE 2.

Specific Ingredients Mentioned in Top Instagram Posts for #Acne

Ingredient	Number of Mentions	Ingredient	Strength of Recommendation/ Level of Evidence	Number of Mentions
Beta-hydroxy Acid	48	Salicylic Acid (BHA)	B/II	48
Alpha-hydroxy Acid	38	Benzoyl Peroxide	A/I,II	6
Vitamin C	25	Topical Retinoids	A/I,II	5
Niacinamide	21	Azelaic Acid	A/I,II	2
Sunscreen	17	Dapsone	A/I,II	1
Hyaluronic Acid	15	Oral Contraceptives	A/I	1
Retinol	15	Spironolactone	B/II,III	1
Mud/Clay	12	Isotretinoin	A/I,II	1
Tea tree	11	Ingredients Mentioned Less Frequently		
Zinc	11	5: pantothenic acid, probiotics, rose water, rosehips, topical retinoids; 4: calendula, ginseng, poly-hydroxy acid, sulfur, vitamin A; 3: African black soap, cannabidiol, gold, omega-3, squalene, turmeric, willow; 2: acai, ashwagandha, avocado, azelaic acid, bergamot, chromium, cocoa, cocoa butter, coconut oil, copper, eucalyptus, evening primrose, frankincense, goji, honey, Kakadu plum, lipo-hydroxy acid, magnesium, milk, milk thistle, niacin, oat, olive oil, pumpkin, rice, selenium, "stem cells," vitamin B6; 2: allantoin, andiroba, apple, banana, basil, beta glucan, birch milk, black seed oil, black tea, bromelain, camu-camu, cat's claw, ceramides, camellia, chlorophyll, coffee, Coenzyme Q10, cucumber, dapsone, date, diindolylmethane, dimethyl sulfone, dragon's blood, glycerin, gotu kola, grapeseed oil, hydroquinone, isotretinoin, jasmine, jojoba, lavender, lemongrass, linseed, mango, marula, mint, oral contraceptive pills, olive, omega-6, orchid, papain, passion fruit, peppermint, pequi oil, pineapple, placenta, pomegranate, resveratrol, rumex, sea buckthorn, shea butter, silver, snail mucin, spironolactone, strawberry, sugar, sunflower, vanilla, vitamin D, yerba mate		
Green tea	8			
Vitamin E	8			
Witch Hazel	8			
Citrus	7			
Benzoyl Peroxide	6			
Caffeine	6			
Centella	6			
Charcoal	6			

RESULTS

Many top acne posts were generated by "influencers," while dermatologists were responsible for only 17 posts, accounting for <4% of the included content (Table 1). While dermatologists, other providers, and influencers all had comparable numbers of followers ($P=0.58$), dermatologists had fewer average "likes" per photo: 250 compared to 764, with a trend toward significance ($P=0.11$). Retailers had significantly more followers than other groups ($P=0.02$). "Other providers" included Instagram users who used a professional credential to substantiate their recommendations. The most common other providers giving acne advice under a professional pretext were aestheticians, though the group was diverse and included nurses, pharmacists, dieticians, and dentists, among others.

Of the included posts, 232 promoted a commercial product, 82 centered around acne awareness and acceptance, 48 advertised services from a medical or beauty-industry provider, 35 promoted home remedies for acne, 31 recommended behavioral interventions, and 11 addressed the underlying etiology of acne vulgaris. 254 posts recommended at least one specific intervention, and 124 separate ingredients were proposed as potential acne treatments (Table 2). Among posts that made a specific

recommendation, only 11% referenced a treatment with grade A evidence based on American Academy of Dermatology guidelines.⁴ Furthermore, the recommendations tended to center around over the counter treatments with only rare mentions of physician-guided treatment for acne.

DISCUSSION

By its nature, Instagram is a social media platform with constantly evolving content and this study is limited as it represents only a snapshot in time. It is further limited by its assumption that the number of likes and followers is a proxy for influence. Further research is needed to determine whether patients weigh content differently based on its source and if/how exposure to this content leads to changes in behavior or attitudes. Nevertheless, there is a vast amount of acne-related content readily available to patients on this platform that has over 100 million US users. This study showed that the content is heterogeneous in message and quality, and dermatologists are responsible for a tiny fraction of it. Thus, there is a need for dermatologists to generate content and to support one another in promoting high-quality evidence-based treatments for acne on Instagram.

DISCLOSURES

The authors have no conflicts of interest to disclose.

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