

YouTube as a Source of Information on Contact Dermatitis

To the Editor:

Many patients use the Internet and social media to obtain health information. YouTube, a popular video-sharing platform, hosts a plethora of health-related content of uncertain value from diverse sources.¹ Limited studies call attention to inaccurate, low-quality dermatologic content uploaded to YouTube by nonmedical sources.^{2,3} We investigated the accuracy, quality, and popularity of videos related to contact dermatitis on YouTube.

We conducted a cross-sectional study of the 60 most viewed videos retrieved by searching for “contact dermatitis” on YouTube. Non-English videos and those concerning unrelated diagnoses/irrelevant topics were excluded. Video source was classified as medical or nonmedical; medical videos were further subcategorized as dermatologist or nondermatologist. Two independent dermatologists rated videos on accuracy, using Dy and colleagues' accuracy scale,⁴ and quality, using the Global Quality Score.⁵ Interrater reliability was assessed using the weighted κ . Agreement between quality and accuracy scores was moderate or substantial between raters ($\kappa = 0.50$ [95% confidence interval = 0.38–0.63] and $\kappa = 0.70$ [95% confidence interval = 0.54–0.85], respectively). Popularity was measured by total views and views per day since first posting. To quantify viewer engagement, an engagement ratio ([likes + dislikes + comments] / total views) was calculated.³ In addition, in the nonmedical videos, first-person experiences were analyzed qualitatively for content.

After application of the exclusion criteria, 39 videos were evaluated, accounting for 1,503,387 views between 2009 and 2019 (Table 1). Most exclusions (86% [18/21]) were for unrelated diagnosis/irrelevant topic. Compared with nonmedical sources, medical videos had significantly higher median (interquartile range [IQR]) scores for accuracy (4 [4–4] vs 1.5 [1–3], respectively) and quality (3.5 [3.5–4.5] vs 1.5 [1.5–2.0], respectively, both $P < 0.01$; Fig. 1). In the nonmedical videos, there was broad recognition that personal care products/cosmetics can cause contact dermatitis; however, it was generally assumed that only new products may be implicated. Commonly, topical steroids (without allergen avoidance), food elimination diets,

and “natural,” potentially allergenic substances were touted as contact dermatitis “cures.” In addition, there was a lack of distinction between irritant and allergic reactions. The median (IQR) video length from nonmedical sources (8.5 [5.4–12.6] minutes) was higher than that from medical sources (4.4 [2.3–6.8] minutes, $P = 0.04$). Although statistically insignificant, total views, views per day, and engagement ratio were numerically higher for nonmedical videos. In the medical subgroup, the median (IQR) engagement ratio was significantly greater for videos from dermatologists (0.009 [0.006–0.013]) than those from nondermatologists (0.003 [0.002–0.006], $P = 0.02$), whereas other characteristics and scores did not differ significantly. All videos from dermatologists and most from nondermatologists accurately conveyed the pathogenesis, causative factors, and clinical features of contact dermatitis. Compared with nondermatologists, dermatologists focused more on patch testing (discussed in 75% [9/12] vs 30% [3/10] of videos), whereas nondermatologists emphasized empirical avoidance strategies and treatment with corticosteroids.

Personal experiences with contact dermatitis accounted for 65% (11/17) of nonmedical videos. Presenters were all women,

TABLE 1. Video Characteristics and Scores by Source

	Source		P
	Medical (n = 22)	Nonmedical (n = 17)	
Characteristics			
Length, min	4.4 (2.3–6.8)	8.5 (5.4–12.6)	0.04
Upload duration, d	1532 (681–2755)	1667 (1006–1794)	0.83
Total views	17,157 (10,861–34,264)	26,290 (11,526–44,096)	0.62
Views per day	18.3 (6.3–37.6)	20.6 (6.9–62.0)	0.64
Engagement ratio	0.006 (0.003–0.010)	0.007 (0.005–0.017)	0.25
Scores			
Accuracy (DAS)	4 (4–4)	1.5 (1–3)	<0.01
Quality (GQS)	3.5 (3.5–4.5)	1.5 (1.5–2.0)	<0.01

Continuous variables are expressed as median (interquartile range) and were analyzed by exact Wilcoxon test. Significance tests were 2-tailed, with an α value of 0.05. All analyses were performed using SAS version 9.4 (SAS Institute, Inc.).

Dy and colleagues' accuracy scale scores: 1 = <25% accurate information, 2 = 25%–50% accurate information, 3 = 51%–75% accurate information, 4 = 76%–100% accurate information.

Global Quality Score: 1 = poor quality, poor flow, most information missing, not at all useful for patients; 2 = generally poor quality and poor flow, some information listed but many important topics missing, of very limited use to patients; 3 = moderate quality, suboptimal flow, some important information is adequately discussed but others poorly discussed, somewhat useful for patients; 4 = good quality and generally good flow, most of the relevant information is listed, but some topics not covered, useful for patients; 5 = excellent quality and excellent flow, very useful for patients.

DAS, Dy and colleagues' accuracy scale score; GQS, Global Quality Score.

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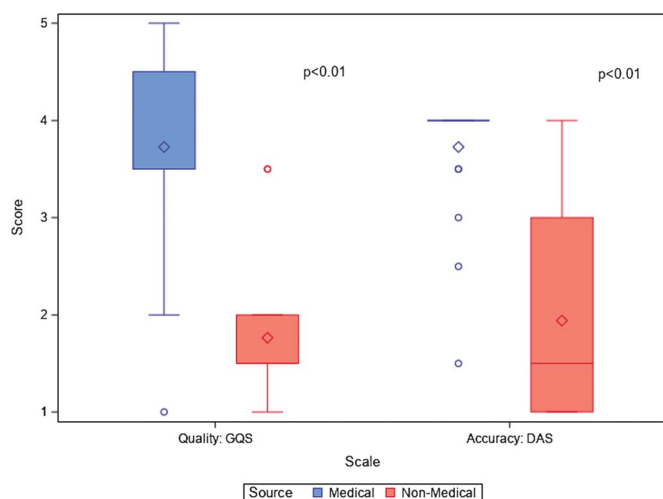


Figure 1. Boxplots of quality and accuracy scores for videos from medical and nonmedical sources. There were lower median Global Quality Scores and Dy and colleagues' accuracy scale scores in videos from nonmedical sources (both $P < 0.01$).

most (73% [8/11]) of whom reported facial dermatitis. Theories for the cause of dermatitis, proposed in 82% (9/11) of videos, commonly included stress, new products, and diet. Remedies were recommended in 91% (10/11) of videos, which most often were product switching, product avoidance, and topical steroids. More than half (55% [6/11]) of narrators reported seeing a dermatologist; 18% (2/11) reported being patch tested.

Inaccurate, low-quality videos from nonmedical sources capture the attention of viewers searching for contact dermatitis information on YouTube. Although not significant, there were greater popularity and engagement for nonmedical versus medical videos, potentially limited by sample size. Nonetheless, there seems to be willingness to engage with videos from medical sources, particularly dermatologists, signaling a valuable opportunity to connect with and educate patients. Considering the high proportion of nonmedical videos represented by first-person accounts, there may be a merit in pursuing patient-physician video collaborations to ensure content accuracy. There is a need for accurate, high-quality, and engaging contact dermatitis videos created by dermatologists for YouTube.

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Comparison of Different Metal Salts: Nickel Sulfate 2.5% Versus 5% and Palladium Chloride Versus Sodium Tetrachloropalladate

To the Editor:

Finding the optimal metal salts and their concentration can be challenging for patch testing clinicians. Sometimes, recommendations differ across countries. In the case of nickel sulfate, the 5% concentration is widely used in Europe, whereas the 2.5% concentration is generally favored in North America. Exposure to palladium can occur from dental alloys and jewelry. The prevalence of sensitization to palladium ranges from 7% to 9%^{1,2} when patch testing with palladium chloride, but testing with sodium tetrachloropalladate was reported to increase the detection rate by up to 2-fold.¹ We consecutively patch tested 364 patients who were undergoing routine patch testing at our center from May 2019 to April 2020 with palladium chloride 2% in petrolatum (pet), sodium tetrachloropalladate 3% pet, as well as nickel sulfate 5% and 2.5% pet. The first 3 allergens (Chemotechnique

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