

EyeTok: Analysis of Dry Eye Content on TikTok

Madeleine Mueller, Jillian Gallegos, Anjulie Quick, MD

University of Kansas | Department of Ophthalmology

BACKGROUND

TikTok has become a major source of health information for patients seeking education about medical conditions and treatments. Although this platform provides widespread access to content, the quality, reliability, transparency, and usability of information vary considerably depending on the content creator.¹ To comprehensively assess video quality, this study employed four validated evaluation tools. The modified DISCERN (mDISCERN) is a five-item instrument that evaluates the reliability and quality of health information, including clarity, balance, source citation, and discussion of treatment options. The Global Quality Scale (GQS) is a five-point measure of overall educational quality, flow, and usefulness to patients.² The Journal of the American Medical Association (JAMA) Benchmark Criteria measures transparency and credibility by evaluating authorship, attribution, disclosure, and currency of health information.³ The Patient Education Materials Assessment Tool (PEMAT) measures both Understandability, or how easily consumers can process and comprehend information, and Actionability, or whether the material provides clear next steps for users.⁵ This study compared dry eye-related videos produced by board-certified ophthalmologists with those created by patients and other medical professionals and evaluated whether user engagement reflects objective measures of content quality.

METHODS

Five dry eye search terms simulating patient queries were entered as hashtags into a new TikTok account to avoid algorithmic tailoring to a pre-existing user. Search terms were #DryEye, #DryEyeTreatment, #ArtificialTears, #EyeDrops, #NaturalDryEyeTreatment. The top 20 posts per term (n=100) were analyzed for engagement and creator type. Creator type was determined by credentials listed in account information when creator self-identification was not present in the video itself. No results were excluded. Two independent raters assessed content using validated tools. Scores were pooled for analysis and interrater variability was assessed. Analysis included Mann–Whitney U and Spearman tests. Statistical significance was defined as $p < 0.05$.

RESULTS

Sixteen percent of videos were created by ophthalmologists. These videos scored significantly higher in mDISCERN ($U=0$, $p<0.001$) and GQS ($U=351.5$, $p<0.0001$) compared to non-ophthalmologist content. PEMAT scores were similar across groups, while JAMA scores were uniformly low. Engagement did not correlate with quality ($p=0.09$, $p=0.35$).

Compared with patient-generated videos, ophthalmologist-produced content demonstrated significantly higher informational quality as measured by mDISCERN ($U = 0$, $p < 0.001$), indicating greater reliability and completeness. Ophthalmologist-generated videos also received significantly higher GQS ratings ($U = 351.5$, $p < 0.00001$), with a large effect size ($r = 0.48$), reflecting higher overall educational quality. JAMA scores were modestly but significantly higher for ophthalmologist content ($U = 416$, $p = 0.021$), although both groups generally demonstrated low transparency scores. No significant differences were observed in PEMAT Understandability ($p = 0.089$) or PEMAT Actionability ($p = 0.154$), suggesting that professional and patient-generated videos were similarly understandable and actionable.

When ophthalmologist videos were compared with all other creators, including other health professionals, ophthalmologists again achieved significantly higher mDISCERN ($U = 948$, $p < 0.001$) and GQS scores ($U = 1096$, $p < 0.001$). However, no significant differences were identified for JAMA ($p = 0.064$), PEMAT Understandability ($p = 0.472$), or PEMAT Actionability ($p = 0.231$). Spearman correlation analyses found no significant associations between likes or comments and any quality metric (all $p > 0.05$), indicating that engagement did not predict educational quality.

Evaluation of content produced by ophthalmologists vs. other content creators

Rating Scale	Ophthalmologists vs Patient	Ophthalmologists vs Other	Interpretation
mDISCERN	↑ Higher ($p < 0.001$)	↑ Higher ($p < 0.001$)	greater reliability and completeness
GQS	↑ Higher ($p < 0.001$)	↑ Higher ($p < 0.001$)	higher overall educational quality
JAMA	↑ Higher ($p = 0.021$)	no significant difference	transparency generally poor across groups
PEMAT Understandability	no significant difference	no significant difference	similar readability
PEMAT Actionability	no significant difference	no significant difference	similarly actionable

Engagement level ratio ([Likes + Comments + Shares]/Followers) vs. measures of content quality

	mDISCERN	GQS	JAMA	PEMAT Understandability	PEMAT Actionability
Spearman Correlation (p)	0.09	0.10	0.06	-0.07	0.07
p -value	0.35	0.30	0.52	0.47	0.49

DISCUSSION

Board-certified ophthalmologists consistently produced more reliable and higher-quality educational videos than patients and other content creators, particularly with respect to informational accuracy and overall educational value. However, professional expertise did not translate into significantly greater understandability or actionability, suggesting that patient-generated content can effectively communicate health information in an accessible manner. Transparency remained poor across all creator groups, highlighting the need for improved reporting of authorship, references, disclosures, and content accuracy. Finally, the absence of correlations between engagement metrics and objective quality measures suggests that engagement should not be considered a surrogate for educational value. These findings underscore the importance of promoting evidence-based ophthalmic content and improving transparency standards across all health information shared on social media. Further, ophthalmologist-generated content comprised the minority of content, highlighting an opportunity for ophthalmologists to fill a gap in publicly accessible dry eye information.

REFERENCES

- Li B, Liu M, Liu J, Zhang Y, Yang W, Xie L. Quality Assessment of health science-related short videos on TikTok: A scoping review. International Journal of Medical Informatics. 2024;186:105426. doi:10.1016/j.ijmedinf.2024.105426
- Table 1. Global Quality Score, mDISCERN, medical ... Accessed July 11, 2026. https://www.emro.who.int/images/stories/emhj/documents/in_press/table_1_global_quality_score_mdiscern_medical_information_and_content_index_score_parameters.pdf.
- Kang. The quality of evidence of and engagement with video medical claims | Media and youth | jama network open | jama network. JAMA. January 2026. Accessed July 11, 2026. <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2844038>.
- Shoemaker SJ, Wolf MS, Brach C. Development of the Patient Education Materials Assessment Tool (PEMAT): a new measure of understandability and actionability for print and audiovisual patient information. Patient Educ Couns 2014;96(3):395-403. DOI: 10.1016/j.pec.2014.05.027 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5085258/>

Theses authors have no disclosures.

432

Presenting Author: **Madeleine Mueller** | MMueller5@kumc.edu
University of Kansas School of Medicine

