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Evaluating the Quality of TikTok Videos on Polycystic Ovarian Syndrome

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ABSTRACT

Introduction: *Polycystic Ovarian Syndrome (PCOS), a common hormonal disorder in reproductive-aged women, is frequently subject to misinformation on social media platforms such as TikTok. Therefore, we aim to evaluate the relationship between viewer engagement and the quality of TikTok videos on PCOS using DISCERN.*

Methods: *A qualitative cross-sectional analysis of the top 50 TikTok videos under the hashtag "#PCOS" was performed. Videos were independently assessed by two medical students using the DISCERN questionnaire and categorized by creator type (physician vs. non-physician) and engagement metrics (likes, views, comments, saves, shares). Comparative analysis assessed the relationship between different engagement metrics and average DISCERN score using Mann-Whitney U tests.*

Results: *Physician-created content had higher average DISCERN scores (38.9) than non-physicians (34.6), though not statistically significant (p=0.155). Higher engagement positively correlated with higher content quality, while number of "likes" did not. Notably, "shares" showed the strongest positive association with quality, suggesting user recognition of reliable information. Despite lower overall engagement with physician content, these videos had higher share rates, indicating greater reliability.*

Conclusion: *This study emphasizes how an increased engagement with likes does not correlate with higher quality and reliability videos about PCOS. While physician-generated TikTok content on PCOS tends to be of higher quality, engagement is not significantly different from non-physician content. Future directions include investigating methods to teach patients how to identify quality and reliable information. Additionally, physicians can be encouraged to utilize social media to educate the public on gynecological conditions.*

Keywords
TikTok, Short videos, PCOS, Viewer engagement.

Introduction
TikTok, a leading social media platform made in 2016, allows individuals to create and watch short videos on a multitude of topics. As of 2025, over 1 billion people use TikTok every month [1]. Unfortunately, the lack of verification of the content being produced, short-from virality often simplifying complex topics, and algorithm-driven content that provides content based on engagement creates for a dangerous space that allows for the spread of misinformation on medicine, politics, conspiracy theories, and a multitude of topics.

The prevalence of medical content on social media platforms have increased in attempts to educate others. Studies have shown that about 52% of medical content in TikTok can be misleading [2]. In addition, misinformation and myths relating to obstetrical and gynecologic topics such as contraception and abortion, fertility, and maternal health has proliferated remarkably on websites and social media platforms [3]. Following the overturn of Roe v. Wade creators used TikTok videos to voice their thoughts on "at

home" methods to terminate pregnancy and their experiences with different contraceptive methods [4]. As a result, numerous TikTok videos spread misinformation regarding the safety of birth control causing distrust between the physician-patient relationship and confusion in patients due to conflicting information.

Polycystic ovarian syndrome (PCOS) is a hormonal disorder that affects approximately 6-13% of women of reproductive-age worldwide, with an estimate of 70% of affected women being undiagnosed [5]. Common symptoms of PCOS include menstrual irregularities, cysts in ovaries, and imbalance in reproductive hormones leading to hirsutism, acne, weight gain, and infertility [6]. PCOS is linked to a multitude of health conditions collectively known as metabolic syndrome including but not limited to: diabetes, chronic hypertension [7]. With PCOS having no cure, many women use Tiktok as a platform to share their experiences with the disorder, their solutions and what worked for them, and encounters with a healthcare worker. In this study, we assess the reliability, clarity, and accuracy of the information of the top 50 videos on Tiktok- with PCOS as a search term.

Methods

This qualitative cross-sectional study that utilizes publicly available data making the study exempt from Institutional Review Board (IRB) approval under the Common Rule. The most updated and publicly available version of TikTok was used and the search term "#PCOS" was entered on July 6th, 2025. A new TikTok account was made for this study to ensure the search results were not influenced by prior searches or algorithms. The TikTok account was not affiliated with the author's institution and did not interact with other users. TikTok was used due to its recent fast growth as a platform for short-form video content targeting a younger female audience [8]. The top 50 videos with the hashtag PCOS were downloaded and saved with the captions, hashtags, likes, and shares at the time of download.

There were no videos excluded from the study. The videos were downloaded and compiled in a shared online folder. Two medical students on the team (A.K. and A.G.) graded the content independently evaluating the content of the videos using the DISCERN questionnaire (overall scores of 1 [low] to 5 [high] for quality of information). To familiarize the graders with the DISCERN scale and to create uniform criteria of grading, samples of unrelated texts were graded and compared. Each video was also separated through author type (physician or non-physician), number of likes, views, comments, shares, and saves.

The DISCERN score of the top 50% and bottom 50% of each metric were compared using Mann-Whitney scores. The mean DISCERN scores by Physician vs. Non-Physician were also compared. Additionally, the mean DISCERN score was separated by professional subtype (i.e. dietician, nutrition coach, etc). The mean engagement level of physician vs non-physician content was also compared by engagement metric.

Results

Physician-made TikTok videos have higher average DISCERN score (38.9) compared to non-physicians (34.6), with a p-value of 0.155 (Figure 1). The evaluation of content quality across professional subtypes revealed significant variations, with physicians demonstrating superior performance (average score = 40.0) compared to other practitioners. Notably, dietitians (32.5) and health coaches (32.5) showed intermediate quality levels, while the average scores for other practitioners ranked lower. However, engagement metrics differ slightly. Statistical analysis revealed no significant differences in engagement between physicians and non-physicians (all p-value >0.05).

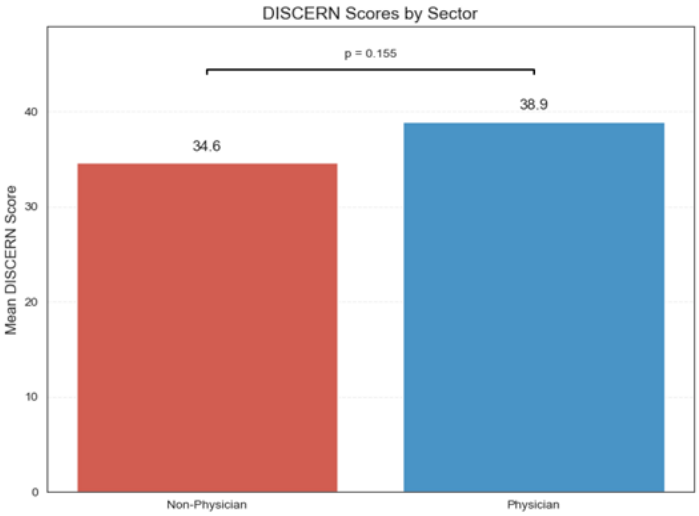

Figure 1: Mean DISCERN Scores Physician vs. Non-Physician.
The figure compares mean DISCERN scores of physician-created versus non-physician-created videos. Statistical comparison with an independent samples t-test demonstrated no significant difference between groups (p = 0.155).

The analysis of engagement metrics against content quality scores revealed distinct patterns. For likes, content with lower engagement (<23,250) demonstrated slightly higher median quality scores (34.5) compared to high-engagement posts (33.0). High-engagement content consistently achieved median scores of 35.5, significantly outperforming low-engagement groups (views: 32.0, comments: 33.0, saves: 32.5, shares: 31.5). Notably, shares exhibited the strongest relationship, with a +4.0-point difference between high- and low-engagement content. Figure 8 demonstrates that non-physician content received higher engagement with the most notable difference in likes (66.3K vs. 55.9K) while the gap was smaller for saves (17.9K vs. 17.1K) and physician content received higher engagement with shares (4.2K vs. 7.6K). Table 1 reinforces this information and also shows that from the total of 50 videos, 90% were made by non-physicians and only 10% of the videos were made by physicians.

Discussion

DISCERN, a publicly accessible and reputable questionnaire, is

an instrument that is used to evaluate the quality of the health information present in the TikTok videos. Although the mean DISCERN scores did not reveal any statistically significant relationship between non-physician and physician developed videos, Figure 1 showed a higher DISCERN score for physician made content emphasizing the quality disparity between the two authors.

Content quality across professional subtypes revealed that physicians and nutrition coaches accrued the highest average DISCERN score (Figure 2). However, these values are not statistically significant. This showcases that with a proper fund of knowledge, there can be a production of higher quality content. To note, even though midwives and nutritionists play an invaluable role in women's health, only two out of the 50 videos were made by these professionals. This demonstrates a need for an increased production of videos by a wider range of distinguished professionals within the field of obstetrics and gynecology.

The DISCERN scores by likes demonstrates that the low-engagement posts had slightly higher median quality scores compared to high-engagement posts (Figure 3). In contrast, views, comments, saves, and shares all showed positive associations with the DISCERN score suggesting that likes may not reliably indicate content quality (Figures 4-7). This highlights how videos with higher engagement by users correlate with better quality information. This further suggests that users are more likely to engage with content that they perceive as valuable and informative. Increased engagement with reliable content will develop an algorithm that continues to provide trustworthy information, better dictating patient education of PCOS.

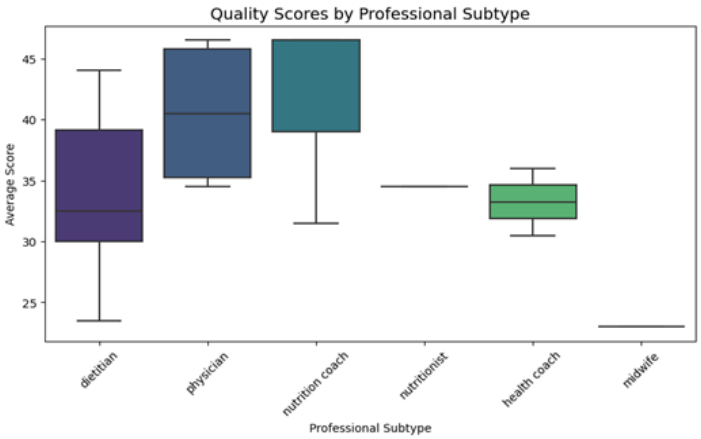

Figure 2: Quality Score by Professional Subtype.
Boxplots depict the distribution of average DISCERN quality scores across different professional subtypes of video creators. Boxes represent the interquartile range (IQR), horizontal lines indicate medians, and whiskers show the full range of values. Outliers, if present, are included within the whiskers.

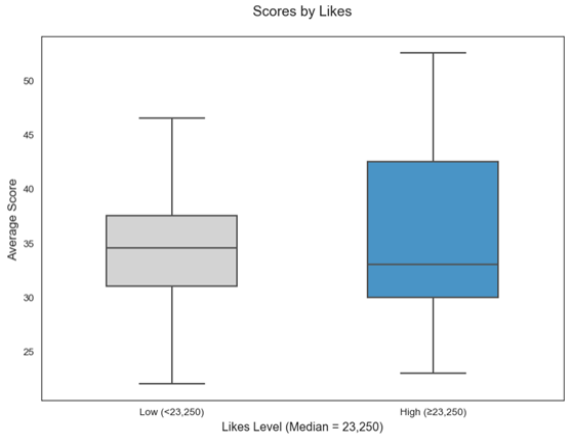

Figure 3: DISCERN Scores by Likes.
Boxplots illustrate the distribution of average DISCERN scores for videos stratified by number of likes, divided at the median value of 23,250. Boxes represent the interquartile range (IQR), horizontal lines indicate the median, and whiskers denote the full range of observed values.

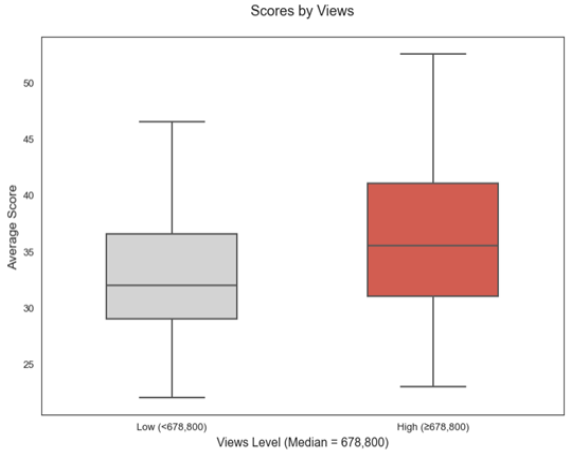

Figure 4: DISCERN Scores by Views.
Boxplots show the distribution of average DISCERN scores for videos stratified by views, split at the median value of 678,800. Boxes represent the interquartile range (IQR), horizontal lines indicate the median, and whiskers denote the observed range.

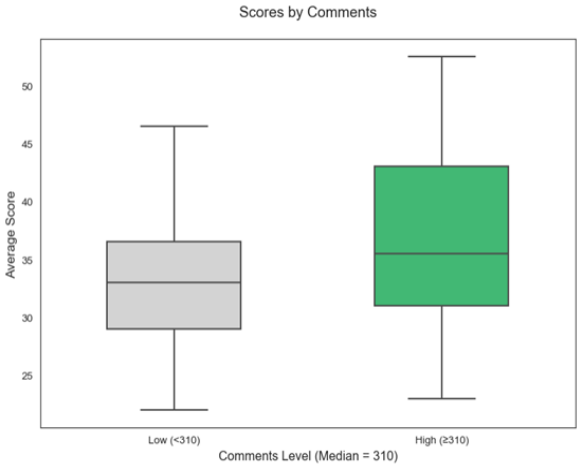

Figure 5: DISCERN Scores by Comments.

Boxplots illustrate the distribution of average DISCERN scores for videos grouped by comment count, divided at the median value of 310. Boxes indicate the interquartile range (IQR), horizontal lines represent the median, and whiskers denote the observed range of values.

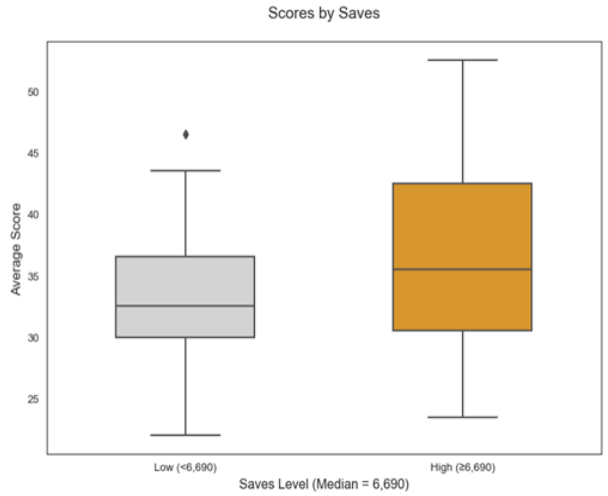

Figure 6: DISCERN Scores by Saves.
Boxplots display the distribution of average DISCERN scores for videos grouped by saves, split at the median value of 6,690. Boxes represent the interquartile range (IQR), horizontal lines indicate the median, whiskers show the observed range, and outliers are plotted as individual points.

Analyzing the likes, views, comments, saves, and shares allows us to identify trends within the videos and content that users are able to see. Additionally, there was an increase in the likes and shares of non-physician videos and an increase in shares of physician videos, even though the relationship was not statistically significant (Figure 8). This type of engagement highlights an increased perception of credibility with physician developed content leading to an increased desire to share these videos.

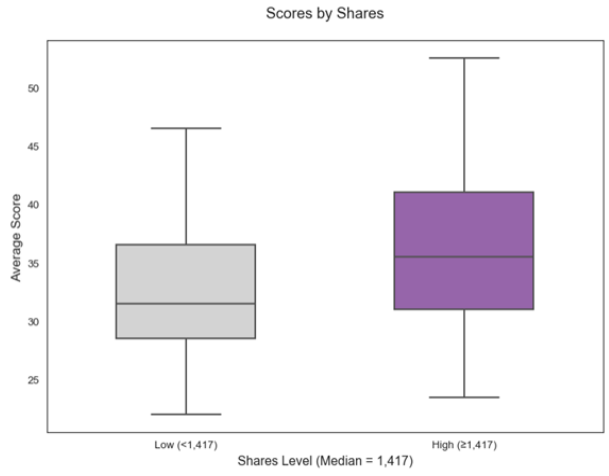

Figure 7: DISCERN Scores by Shares.
Boxplots present the distribution of average DISCERN scores for videos categorized by share count, split at the median value of 1,417. Boxes denote the interquartile range (IQR), horizontal lines represent the median, and whiskers indicate the observed range of values.

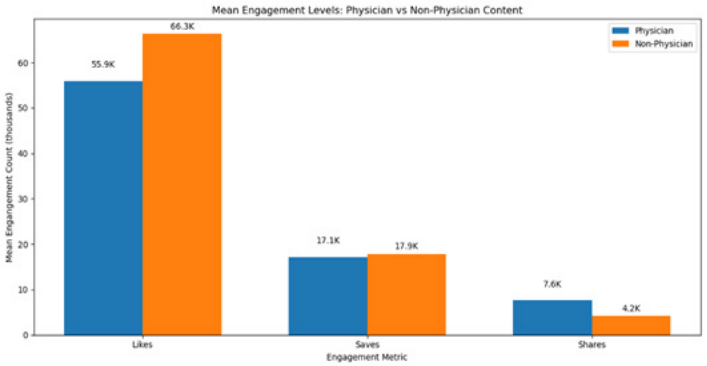

Figure 8: Mean Engagement Levels: Physician vs. Non-Physician.
Bar graphs compare mean engagement counts (in thousands) for physician- and non-physician–created videos across three metrics: likes, saves, and shares.

Furthermore, there was a difference in the number of videos created by both physicians and non-physicians (Table 1). Individuals who are not physicians may lack the medical training to fully understand and explain PCOS. Additionally, non-physicians rely on personal experiences without recognizing all the nuances and complexities of the condition making them more likely to promote supplements that may not be scientifically proven or FDA approved. Misinformation from unqualified sources may cause people to self-diagnose or delay seeking medical help.

Physicians are better equipped to explain the different phenotypes of PCOS and the potential comorbidities. Additionally, as mentioned earlier, Figure 1 shows that physicians have a higher average DISCERN score, emphasizing the necessity to increase content developed by physicians.

Table 1: Distribution of Physician vs. Non-Physician Content Creators.

	Physician	Non-Physician
Content Creator	5	45
Likes (thousands)	55.9	66.3
Saves (thousands)	17.1	17.9
Shares (thousands)	7.6	4.2

Although these findings highlight a positive correlation between quality of videos and content engagement, there are some limitations present in the study. While DISCERN is a valid and reliable questionnaire to assess the quality of research, the nature of the survey is subjective, increasing susceptibility to bias. Additionally, the individuals grading the responses of the survey are medical students who are more familiar with medical terminology than the general population watching the TikTok videos. Despite there being a multitude of social media platforms such as Instagram, Facebook, YouTube, and X (formerly Twitter), this study was limited to a single social media platform. This overlooks the constant change that occurs in social media, as there are a plethora of videos which become popular under the #PCOS search query. Thus, an analysis of 50 videos at one point in time may not always be representative of the immediacy of

changing social media trends. Additionally, all of the videos were in English in the United States, preventing us from factoring in cultural influences. Another limitation is the use of a single search term "#PCOS." Additional hashtags such as "#polycystic ovarian syndrome" and "#polycysticovaries" to name a few, would allow for the inclusion of more videos on the topic and make the study more robust.

Conclusion

Overall, the analysis of engagement metrics such as likes, views, comments, saves, and shares for TikTok videos on PCOS provides valuable insights into user interactions with healthcare-related content. Although comparisons between physician and non-physician generated videos revealed no statistically significant differences overall, healthcare videos notably garnered higher rates of saves and shares compared to non-healthcare content. This suggests that users attribute greater credibility and value to physician-developed content, indicating an inclination to engage with trusted healthcare information. The DISCERN questionnaire further supported these findings, revealing a generally positive relationship between content quality and user engagement, particularly with respect to views, comments, saves, and shares. Notably, likes alone were not a reliable indicator of content quality. Still, the study acknowledges several limitations, including potential bias due to subjective assessments by medically knowledgeable reviewers, limited analysis restricted to TikTok, and a snapshot approach that does not account for evolving trends or cultural variations. Future research should aim to include more social media platforms and incorporate a longitudinal analysis to enhance understanding of engagement dynamics and content reliability in social media healthcare information.

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