Vaginitis Videos on YouTube:
Quality and Patient Education Analysis

Mücahit Furkan Balcı[1], *Celal Akdemir*[2], *Fatih Yıldırım*[3]

1 Department of Obstetrics and Gynecology, Torbalı State Hospital, İzmir, Türkiye
2 Department of Gynecologic Oncology, İzmir City Hospital, İzmir, Türkiye
3 Department of Obstetrics and Gynecology, Tepecik Training and Research Hospital, İzmir, Türkiye

Abstract

Aim: This study aimed to evaluate the content, characteristics, and quality of the most-viewed YouTube videos on vaginitis, assessing their accuracy and potential role in patient education.

Methods: On December 26, 2025, a new YouTube account was used to search "vaginitis" and "vaginal infection." The first 100 videos were screened; 53 were excluded due to non-English language, lack of audiovisual content, or duplication, leaving 47 videos for analysis. Videos were categorized by content (disease explanation, treatment, personal experiences, other) and by uploader (academic, physician, paramedic, commercial, patient), further grouped as medical vs. non-medical. Video metrics (views, likes, like-to-view ratio, views per 1,000, Video Power Index.VPI]) and quality scores were recorded. Data were analyzed using the Mann–Whitney U and Fisher's exact tests; interrater reliability was assessed with ICC.

Results: Of the videos, 72.3% covered disease explanations, 12.8% other topics, 10.6% personal experiences, and 4.3% preventive measures. Uploaders were physicians (46.8%), academics (27.7%), commercial sources (12.8%), patients (8.5%), and paramedics (4.3%). Median views were 55,337 (range: 581–11.041.478), median likes were 402 (range: 11–295.000). VPI did not differ significantly between professional and non-professional sources (6.06±30.80 vs. 2.29±4.53; p=0.451), but quality scores were higher for professional sources (9.70±4.03 vs. 6.20±2.39; p=0.014). Videos uploaded in 2021 or later had higher VPI than earlier ones (0.556 vs. 0.114; p=0.003), with no significant difference in quality (p=0.083).

Conclusions: Most YouTube videos on vaginitis focus on definitions, with limited guidance on prevention or self-care. While professional sources provide higher-quality content, engagement metrics do not correlate with reliability. Promotion of expert-led videos and automated quality control measures is warranted.

Keywords: *Vaginitis; YouTube; education*

1. Introduction

Vaginitis is caused by infection, inflammation, or an imbalance in the normal vaginal flora.[1,2] Common symptoms include odor, irritation, burning sensation, pruritus, dysuria, dyspareunia, or changes in vaginal discharge.[1,2] A proper examination with appropriate diagnostic testing is crucial to differentiate vaginitis from other potential causes of vaginal symptoms, such as vulvar, vaginal, or cervical cancers.[3]

Vaginitis may become a chronic condition requiring continuous treatment.4 Given its multifactorial etiology and the fact that diagnosis and treatment vary according to the underlying pathogen, consultation with a gynecologist is essential.[1,5] In untreated or persistent cases, patients often seek information from alternative sources.

The internet offers broad access to various online medical and audiovisual educational materials. YouTube, one of the most widely used internet-based visual information and entertainment platforms, receives over 2 billion video views per day. Although YouTube includes highly informative content published by professionals, its open-access nature allows the dissemination of potentially misleading or inaccurate information, as it does not verify the credibility of video creators.[6,7]

2. Materials and Methods

A YouTube search was performed on December 26, 2025, using the keywords "vaginitis" and "vaginal infection."

Inclusion criteria for videos were: English language, primarily vaginitis-related content, and acceptable audiovisual quality. Exclusion criteria included non-English language, absence of audio

Corresponding Author: Mücahit Furkan Balcı, mucahitfurkanbalci@gmail.com, Received: 12.10.2025, Accepted: 06.02.2026, Available Online Date: 15.03.2026. https://doi.org/10.36516/jocass.1802308

or visual components, and duplicate videos.

To minimize algorithmic bias from prior viewing history, a newly created YouTube account was used. Videos were sorted by view count. For each search term, 45 videos among the top 100 results (ranked by relevance) were selected. A total of 55 videos were excluded (non-English = 32, no audio/visual content = 13, duplicates = 10). Additionally, 2 more videos were identified using the keyword "vaginal infection," resulting in a final total of 47 videos included in the analysis.

Video Evaluation

For each video, the following parameters were recorded: number of views, video length (minutes), total number of likes, content purpose, and content type.

Videos were categorized into four groups based on their content:

1. Explanatory (providing medical information on vaginitis, including diagnosis, symptoms, and treatment),
2. Treatment procedures (demonstrating or explaining treatment steps in detail),
3. Personal experiences (sharing individual stories and emotional experiences related to vaginitis), and
4. Other (complementary approaches such as nutrition or exercise).

Videos were also classified based on the source of upload into five main groups:

- Academics (affiliated with a university),
- Physicians (medical doctors not affiliated with a university),
- Patients (women diagnosed with and currently or previously treated for vaginitis),
- Commercial organizations (content promoting a product or service),
- Paramedical professionals (such as physical therapists, dietitians, or allied health providers).

Uploads by academics and physicians were grouped as medical, while those from patients, commercial sources, and paramedical professionals were grouped as non-medical.

Since there is no standardized method for evaluating video quality, a scoring system based on a previous study was adopted.[8,9]

Evaluation parameters included:

- Overall video quality,
- Inclusion and clarity of essential information about vaginitis,
- Level of scientific evidence referenced.

Each parameter was rated on a 3-point scale:

- 1 = Poor,
- 2 = Moderate,
- 3 = Good.

Information related to vaginitis was divided into five components (etiology, symptoms, diagnosis, treatment, and recovery), and scored as follows:

- 0 = Not mentioned,
- 1 = Briefly mentioned,
- 2 = Explained in detail.

Scientific evidence was evaluated across two sub-items:

- 0 = Not mentioned,
- 1 = Mentioned.

The total possible quality score for each video ranged from 2 to 18 points. Each video was independently evaluated by three physicians, and the average of their scores was used in the final analysis.

To assess video popularity, we calculated:

- Like ratio = likes × 100 / total likes,
- View ratio = total views / days since upload,
- Video Power Index (VPI) = (like ratio × view ratio) / 100.

Although previous studies incorporated dislike counts into evaluation metrics, YouTube no longer displays this data due to platform policy changes.

Statistical Analysis

Data on video characteristics such as source, purpose, and post-publication view counts were collected. Continuous variables were presented as median (range) and categorical variables as n (%). Comparisons between medical and non-medical groups were made using the Mann–Whitney U test. Differences in content distribution between medical and non-medical sources were analyzed using Fisher's exact test. Statistical analyses were conducted using SPSS software (version 25.0, IBM, Armonk, NY, USA). A p-value <0.05 was considered statistically significant.

Inter-rater reliability for the quality scoring across the three physician raters was assessed using intraclass correlation coefficients (ICC).

3. Results

Among the 47 videos included in the study, the most common content category was "disease explanation," accounting for 72.3% (n = 34) of all videos (Table 1). This was followed by "personal experiences" at 10.6% (n = 5), "other" content such as dietary and lifestyle recommendations or advertisements at 12.8% (n = 6), and "preventive strategies" at 4.3% (n = 2).

Table 1
Distribution of video content

Category	n	%
Disease explanation	34	72.3
Preventive strategies	2	4.3
Personal experiences	5	10.6
Other (nutrition, lifestyle advice, medical/device promotions)	6	12.8
Total	47	100.0

Data are presented as n (%) of the total sample (N = 47). Each video was classified according to its primary content focus (mutually exclusive coding). "Other" includes nutrition and lifestyle advice and/or medical/device promotions. Percentages may not sum to 100% due to rounding.

Regarding uploader profiles, physicians were the most frequent uploaders, contributing to 46.8% (n = 22) of the videos, followed by academics (27.7%, n = 13), commercial sources (12.8%, n = 6), patients (8.5%, n = 4), and paramedical professionals (4.3%, n = 2) (Table 2).

Table 2
Distribution by uploader type

Uploader	n	%
Physician	22	46.8
Academic	13	27.7
Paramedical	2	4.3
Commercial	6	12.8
Patient	4	8.5
Total	47	100.0

Data are presented as n (%) of the total sample (N = 47). Uploader type was determined from the channel/video information (e.g., stated credentials and affiliation). "Paramedical" includes allied health professionals (e.g., nurse, midwife). "Commercial" indicates company/brand channels. Percentages may not sum to 100% due to rounding.

The mean number of views was 420,813.5±1,610,245.7, with a median of 55,337 (range: 581.6–11,041,478). The mean number of likes was 7,625.8±42,902.2 (median 402; range: 11–295,000). The average video duration was 7.61±6.53 minutes (median 5.00; range: 1.00–27.00). The average view rate per 1000 was 318.04±1,094.29 (median 36.75; range: 0.43–7,037.27). The mean Video Power Index (VPI) was 5.26±27.37 (median 0.33; range: 0.00–188.02), and the mean quality score was 8.96±3.99 (median 8.00; range: 2–18). Descriptive statistics are presented in Table 3.

Table 3

Descriptive characteristics of videos

Feature	Mean	Std Dev	Median	Min	Max
Views	420,813.48	1,610,245.71	55,337.00	581.64	11,041,478.00
Duration (min)	7.61	6.53	5.00	1.00	27.00
Likes	7,625.77	42,902.22	402.00	11.00	295,000.00
Like/View × 100 (%)	0.20	1.30	0.01	0.00	8.94
View rate (×1000)	318.04	1,094.29	36.75	0.43	7,037.27
VPI	5.26	27.37	0.33	0.00	188.02
Quality Score	8.96	3.99	8.00	2.00	18.00

Values are presented as mean, standard deviation (SD), median, minimum, and maximum (N = 47). Metrics (views, likes) were recorded at the time of data extraction and may change over time. Duration is in minutes. Like/View × 100 was calculated as (likes / views) × 100. View rate (×1000) and VPI were calculated as described in the Methods section. Quality Score represents the total quality assessment score (higher scores indicate better quality; specify scale range here, e.g., 0–18). SD, standard deviation; VPI, Video Power Index.

Comparison of professional (physician, academic, paramedic) versus non-professional (commercial, patient) uploaders using the Mann–Whitney U test is shown in Table 4. The mean VPI was 6.06±30.80 in the professional group and 2.29±4.53 in the non-professional group, with no statistically significant difference (p = 0.4509). However, the mean quality score was significantly higher in the professional group (9.70±4.03) compared to the non-professional group (6.20±2.39) (p = 0.0135).

Table 4

Comparison of VPI and quality scores by uploader type

Group	VPI (mean ± SD)	Quality Score (mean ± SD)	p-value (VPI)	p-value (Score)
Non-professional	2.29 ± 4.53	6.20 ± 2.39	0.4509	0.0135
Professional	6.06 ± 30.80	9.70 ± 4.03	0.4509	0.0135

(*Mann–Whitney U test*)

“Professional” uploaders included physicians/academics/paramedical professionals; “Non-professional” uploaders included patients and commercial channels (define exactly how you grouped them). Values are presented as mean ± SD. Group comparisons were performed using the Mann–Whitney U test (two-tailed). A p-value < 0.05 was considered statistically significant. SD, standard deviation; VPI, Video Power Index.

The highest number of videos was uploaded in 2023 (23.4%; n = 11), followed by 2021 (17.0%; n = 8) and 2022 (12.8%; n = 6). The oldest video dated back to 2010, and the most recent videos were from 2024. The year-wise distribution is shown in Table 5.

Table 5

Distribution of video uploads by year

Year	n	%
2010	1	2.1
2013	1	2.1
2014	4	8.5
2015	2	4.3
2016	2	4.3
2017	1	2.1
2018	5	10.6
2019	1	2.1
2020	1	2.1
2021	8	17.0
2022	6	12.8
2023	11	23.4
2024	4	8.5
Total	47	100.0

Year indicates the upload year. Data are presented as n (%) of the total sample (N = 47). Percentages may not sum to 100% due to rounding.

Videos were then grouped based on upload time: before the end of 2020 (n = 21) and 2021 and later (n = 26) (Table 6). Median view count was higher in the pre-2021 group (61,645; range: 6,316–11,041,478) than the post-2020 group (39,274.5; range: 582–1,106,650), though the difference was not statistically significant (p = 0.195). Median video duration was similar between groups (8.5 vs. 4.5 minutes; p = 1.000). There were no significant differences in number of likes or view rate (p>0.05). However, the median VPI was significantly higher in the post-2020 group (0.556 vs. 0.114; p = 0.003). The proportion of medical content was similar in both periods (71.4% vs. 76.9%; p = 0.744), and quality scores did not significantly differ (p = 0.083).

Table 6

Comparison by video upload year

Variable	Pre-2021 (n = 21)	2021 and later (n = 26)	p
Views	61,645 (6,316–11,041,478)	39,274.5 (582–1,106,650)	0.195
Video duration (min)	8.5 (1.0–24.0)	4.5 (1.0–27.0)	1.000
Likes	402 (11–295,000)	487 (44–5,700)	0.684
View rate (×1000)	20.04 (1.46–7,037.27)	53.19 (0.43–2,874.42)	0.143
VPI	0.114 (0.003–188.018)	0.556 (0.043–14.805)	0.003
Medical content (%)	71.4% (15/21)	76.9% (20/26)	0.744
Quality score	8 (2–14)	9 (3–18)	0.083

Continuous variables are presented as median (range); categorical variables are presented as % (n/N). “Pre-2021” includes videos uploaded before 1 January 2021; “2021 and later” includes videos uploaded on/after 1 January 2021. Continuous variables were compared using the Mann–Whitney U test; categorical variables were compared using the χ^2 test or Fisher’s exact test, as appropriate. A p-value < 0.05 was considered statistically significant. “Medical content” indicates videos meeting the predefined criteria for medical/educational content (as defined in the coding protocol). Quality Score scale/range should be specified (e.g., 0–18; higher = better).

4. Discussion

The finding that 72.3% of the analyzed videos focused on disease definition and symptom explanation suggests that health-related content on social media prioritizes cognitive-level information. This aligns with previous systematic reviews indicating that YouTube health videos are often limited to introductory disease content. For example, a review published in BMC Medical Education emphasized the frequent absence of preventive and practical guidance in such videos.[7] While this reinforces the "knowledge acquisition" aspect of cognitive learning theories, it also reveals a lack of applied guidance necessary for self-management and behavioral change.[10]

When examining source credibility and quality indicators, a positive correlation between professional content creators and higher video quality has been consistently reported in the literature. Videos uploaded by experts have been shown to score significantly higher on GQS and DISCERN metrics.[11,12] A recent study in Nature Scientific Reports highlighted the potential of large language models to assess the quality of medical videos with enhanced speed and consistency; however, human expertise remains the gold standard.[13] In contrast, videos from non-professional sources pose a higher risk of misinformation, which may undermine viewer trust.[14]

Regarding engagement metrics and content quality, the weak correlation observed between view count, likes, VPI, and quality scores suggests that superficial popularity measures may not reliably reflect the educational accuracy of health videos. Similar findings have been reported in the domain of physical training videos, where viewer interaction did not guarantee high-quality explanatory content.[15] This engagement-quality mismatch has also been documented in gastroenterology education, prompting recommendations that algorithms prioritize content standards rather than numerical popularity alone.[10]

In terms of time trends and algorithmic bias, the significantly higher median VPI among videos uploaded after 2021 suggests that YouTube's recommendation algorithms prioritize engagement-driving content, regardless of informational quality. A study published in Journal of Medical Internet Research emphasized that algorithmic filtering tends to favor popularity over educational optimization.[13] Furthermore, recent reports by the eSafety Commission acknowledged YouTube's role in health education while stressing the importance of algorithmic oversight to ensure content safety, particularly for children and adolescents.[13]

Growing evidence supports the effectiveness of video-based health education in promoting behavior change. Systematic reviews have shown that structured interventions can significantly improve viewer health literacy.[16] Moreover, deep learning–based tools have been proposed as a means to provide real-time quality feedback to content creators and platform moderators, as suggested in a recent Scientific Reports article.[13] These tools have the potential to enhance both scalability and consistency, contributing to the standardization of content quality.

This study revealed that vaginitis-related YouTube videos predominantly focus on symptom explanation and basic information, while guidance on preventive strategies and self-care is notably lacking. Video quality was positively associated with professional involvement, with expert-generated content scoring significantly higher on GQS and DISCERN compared to non-professional sources.[11,17] In contrast, engagement metrics such as views, likes, and VPI did not consistently reflect content quality, indicating that algorithmic prioritization of popularity may jeopardize informational reliability.[10,15]

Temporal trends showed that post-2021 content was more likely to be promoted based on engagement rather than educational merit, underscoring that visibility does not equate to quality.[18] Therefore, health education videos must strike a balance between viewer appeal and medical accuracy. Automatic evaluation tools based on deep learning and large language models could offer real-time feedback to creators, thereby promoting standardization and enhancing reliability.[13,19]

Limitations

Limiting the analysis to the top 100 videos and the inherent subjectivity in manual scoring may affect the generalizability of the results. Future studies should consider using a greater number of raters and combining expert evaluation with automated quality assessment tools to enhance objectivity.

5. Conclusion

Based on these findings, several strategies could improve vaginitis education on YouTube by making content both more useful and more trustworthy: creators should expand practical, self-management–oriented information by addressing hygiene, prevention, and clear "when to seek urgent care" guidance.[7]; greater involvement and collaboration of physicians and academics may enhance medical accuracy and strengthen viewer trust.[11,12]; at the platform level, recommendation algorithms could be optimized to incorporate independent quality indicators rather than relying primarily on engagement metrics[13]; and, finally, scalable monitoring systems using LLMs and deep learning approaches may support automated quality assessment and help maintain content credibility over time.[13,19] Implementing these steps could reinforce YouTube's public health education value while increasing access to accurate, current, and comprehensive information for viewers.

Statement of ethics

This study did not involve human subjects directly. However, expert opinions were obtained via an online survey. Participation was voluntary, and informed consent was implied by completion of the survey. Ethics committee approval was not required due to the non-interventional nature of the study.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of interest statement

The authors declare that they have no conflict of interest.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Author contributions

Mücahit Furkan Balcı and Celal Akdemir contributed to the study conception and design. Fatih Yıldırım were responsible for data collection and evaluation. Celal Akdemir conducted the statistical analyses. All authors contributed to drafting the manuscript and approved the final version.

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