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Quality and Reliability of Bladder Cancer-Related Videos on Douyin and BiliBili: A Cross- Sectional Study

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Article

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Abstract

Short-video platforms have become important channels for public health communication, but the quality and reliability of bladder cancer-related information on major Chinese platforms remain insufficiently studied. We conducted a cross-sectional content analysis of the top 100 videos retrieved from Douyin and BiliBili using the Chinese keyword "□□□" on January 20, 2026. After predefined exclusions, 182 eligible videos were included, comprising 98 Douyin videos and 84 BiliBili videos. Video characteristics, uploader type, verification status, presentation format, content completeness, information quality, and reliability were assessed using an 8-item content score, mDISCERN, PEMAT-A/V, JAMA benchmark criteria, and Global Quality Score (GQS). Compared with BiliBili, Douyin videos showed significantly higher likes, comments, engagement index, and daily engagement, whereas BiliBili videos were significantly longer in duration. Douyin also had a higher proportion of verified accounts and physician uploaders. In content analysis, Douyin videos more frequently covered disease definition, risk factors, diagnosis, and prevention, whereas no significant between-platform differences were observed for etiology, symptoms, treatment, or outcomes. Quality assessment showed that Douyin videos achieved significantly higher content scores, mDISCERN scores, PEMAT scores, and GQS scores, whereas BiliBili videos had slightly higher JAMA scores. In multivariable logistic regression, structural content score and mDISCERN score were independent predictors of high-quality videos. Spearman analysis showed that GQS was strongly correlated with mDISCERN score and moderately correlated with content score, whereas engagement metrics were not significantly associated with GQS. These findings suggest that bladder cancer-related videos on Douyin and BiliBili differ substantially in engagement, content characteristics, quality, and reliability, and highlight the need for stronger involvement of physicians and professional healthcare organizations in producing high-quality social media content for patient education.

1. Introduction

Bladder cancer is one of the most common malignancies of the urinary system, characterized by high recurrence rates and a significant burden on global healthcare systems. In 2018, bladder cancer was diagnosed in 549,393 patients, and 199,922 succumbed to the disease worldwide [1]. Recent advances in urological oncology have introduced a diverse range of management strategies, including transurethral resection of bladder tumor (TURBT) [2], intravesical immunotherapy (such as BCG) [3], systemic chemotherapy, radical cystectomy, and emerging targeted therapies [4]. Studies have consistently shown that following a diagnosis of bladder cancer, patients and their families actively seek information regarding disease staging, surgical options, and post-operative quality of life [5]. This proactive search for information is vital, as it empowers patients to participate in shared decision-making and helps mitigate the psychological distress associated with a cancer diagnosis.

Bladder cancer represents a particularly relevant disease context for evaluating online health information quality. Unlike many conditions requiring only short-term decision-making, bladder cancer often involves recurrent surveillance, repeated interventions, and complex choices regarding intravesical therapy,

bladder preservation, or radical surgery. In addition, its early warning symptom—painless hematuria—is common but easily overlooked, making public education especially important for timely medical consultation and early diagnosis. These features make bladder cancer highly dependent on accurate, accessible, and sustained patient-oriented information.

With the rapid evolution of digital health communication, social media platforms have transformed into primary sources of medical knowledge for the general public [6]. The shift toward visual and interactive content has facilitated the widespread dissemination of health-related information, allowing individuals to engage with medical topics that align with their personal concerns. This trend is particularly prominent in China, where short-form video-sharing platforms like Douyin and BiliBili have become ubiquitous. These platforms host a vast volume of user-generated content, where health-related information—including bladder cancer awareness, diagnostic procedures, and treatment experiences—is frequently shared and consumed by millions of users.

Importantly, Douyin and BiliBili represent distinct digital communication ecosystems rather than merely two interchangeable video platforms. Douyin is characterized by brief, highly algorithm-driven content with strong interaction and rapid dissemination, whereas BiliBili more often accommodates longer explanatory videos and a relatively knowledge-oriented audience culture. Comparing these two platforms therefore provides an opportunity to examine whether platform ecology influences the educational value, reliability, and communication patterns of bladder cancer-related information.

However, the rapid growth of medical content on these platforms has raised significant concerns regarding accuracy, quality, and reliability. The open-access nature of Douyin and BiliBili allows a diverse range of creators—from certified medical experts to non-professional influencers—to upload content, resulting in a high degree of variability in information quality. While high-quality videos can deliver authoritative and evidence-based knowledge to help patients understand complex oncological issues, low-quality or commercially driven videos may spread misinformation, provide biased treatment advice, and ultimately compromise patient safety and clinical outcomes. Consequently, evaluating and maintaining the quality of bladder cancer-related videos on these digital platforms has become an essential task for public health.

Over the past decade, researchers have begun to assess the quality of medical information on social media across various disciplines, including dermatology [7–8], respiratory medicine [9], and several surgical conditions such as gastric cancer [10] and lung nodules [11]. Although recent studies have explored urological malignancies on Western platforms like YouTube [12], there remains a critical research gap concerning Chinese-language platforms. While Douyin and BiliBili are the dominant video platforms in China, few studies have conducted a comparative analysis of bladder cancer content across these two distinct digital ecosystems.

Although prior studies have assessed health-related video quality on social media in other disease areas, evidence focusing specifically on bladder cancer across major Chinese-language video platforms

remains limited. Moreover, few studies have simultaneously compared platform-specific content ecology while integrating content coverage, information reliability, understandability, engagement, and predictors of high-quality videos within a single analytical framework. Addressing these gaps may provide more targeted evidence for both digital health communication and bladder cancer patient education.

Therefore, this study aims to evaluate the quality and reliability of bladder cancer-related videos on Douyin and BiliBili. Specifically, we seek to: (1) analyze the content characteristics and uploader sources of these videos; (2) measure the completeness and accessibility of information using Content Coverage and PEMAT-A/V to ensure videos are medically thorough and easy for the public to translate into health-seeking actions; (3) evaluate the reliability and professional integrity of the content via mDISCERN, GQS, and JAMA by verifying expert authorship, citing evidence-based sources, and ensuring a balanced presentation of treatment options; (4) compare the information accuracy and platform performance between Douyin and BiliBili. By identifying the strengths and deficiencies of current online bladder cancer education, this research intends to provide evidence-based recommendations for future medical content creation and public health communication.

2. Methods

2.1 Ethical considerations

This study did not involve clinical data, human specimens, or laboratory animals. All data were obtained from publicly available videos on Douyin and BiliBili, ensuring that no personal privacy issues were involved. Since the study did not include any user interaction, an ethics review was not required.

2.2 Search strategy and data collection

A cross-sectional content analysis was conducted on Douyin and BiliBili using the Chinese keyword “□□□” (“bladder cancer”). On January 20, 2026, the top 100 videos from each platform were retrieved in the default search order. To minimize personalization bias, all searches were performed using newly created accounts in incognito mode or after clearing browsing and search histories.

Videos were excluded if they met any of the following criteria: (1) duplicate content, defined as videos with identical content, metadata, or engagement metrics uploaded multiple times on the same platform; (2) insufficient duration, defined as a total video length of less than 10 seconds; (3) lack of educational relevance, including personal vlogs, advertisements without medical evidence, or content unrelated to the diagnosis and management of bladder cancer; (4) statistical outliers or invalid data, defined as videos with an upload history of 0 days on the data collection date (January 20, 2026) or videos with zero engagement metrics; and (5) missing core evaluative metrics, including mDISCERN, GQS, or JAMA scores.

After application of the predefined exclusion criteria, 182 eligible videos were included in the final analysis, comprising 98 Douyin videos and 84 BiliBili videos. The overall screening process is shown in

Fig. 1.

The top 100 results were selected to reflect the most visible content most likely to be encountered by general users on each platform.

2.3 Classification of videos

For each eligible video, the following parameters were documented and analyzed: Video URL, Title, Like Count, Collection Count, Comment Count, Share Count, Upload Date, Video Duration (s), and Follower Count.

The sources of the videos were classified into six categories: physicians, hospitals or medical institutions, health science communication accounts, individual users, media organizations, and others. The video presentation formats were categorized into five types: real-person explanations, animations, scenario-based performances, mixed formats, and others. In addition, the verification status of each video uploader was recorded as either verified or non-verified.

2.4 Video quality and reliability assessments

Each video was systematically evaluated across multiple dimensions. For content coverage, the presence or absence of specific informational components—definition, etiology, risk factors, symptoms, diagnosis, treatment, prevention, and consequences—was assessed individually (scored as 1 or 0, respectively), and a total content score (0–8) was calculated to reflect overall completeness.

The mDISCERN instrument was applied to assess the quality and reliability of the information, with each of the five items scored from 1 to 5 and accompanied by detailed justification. The PEMAT-A/V tool was used to evaluate understandability and actionability, with each criterion scored dichotomously (1 = yes, 0 = no, or not applicable where appropriate).

In addition, the overall quality of the videos was rated using the Global Quality Score (GQS), and credibility was assessed using the JAMA benchmark criteria, including authorship, attribution, disclosure, and currency.

All assessments were independently conducted by two reviewers. Discrepancies were resolved through discussion or adjudication by a third reviewer. Inter-rater agreement between the two reviewers was assessed using Cohen's kappa coefficient (κ).

2.5 Statistical analyses

Statistical analyses were performed using GraphPad Prism (version 9.0.0, Mac). Because most continuous variables were non-normally distributed, data are presented as medians with interquartile ranges (IQRs), and between-platform comparisons were performed using the Mann–Whitney U test. Categorical variables are presented as numbers and percentages and were compared using the chi-square test or Fisher's exact test as appropriate. Spearman's rank correlation coefficient was used to assess associations between quality, content, and engagement variables. To identify factors associated

with high-quality videos, a multivariable logistic regression model was constructed, with high quality defined a priori as GQS ≥ 4. A two-sided P value < 0.05 was considered statistically significant.

3. Results

3.1 Video characteristics

A total of 182 bladder cancer-related videos were included in the final analysis, including 98 videos from Douyin and 84 videos from BiliBili. Inter-rater agreement between the two reviewers was satisfactory, indicating acceptable consistency in the evaluation process.

Table 1
Basic characteristics of videos

Variable	Douyin Median	BiliBili Median	*P* value
Likes	88.5 (34.5–258.75)	38.5 (8.0–146.0)	0.0019
Favorites	29.0 (7.25–108.25)	29.0 (9.5–116.0)	0.6745
Comments	8.5 (2.0–39.0)	0.0 (0.0–5.0)	< 0.0001
Shares	19.5 (5.25–73.25)	16.5 (4.75–64.25)	0.6740
Duration (sec)	80.5 (47.75–149.5)	242.0 (105.75–714.5)	< 0.0001
Engagement Index (%)	2.861 (0.922–7.842)	1.149 (0.255–6.828)	0.0434
Daily Engagement (%)	0.027 (0.004–0.115)	0.002 (0.001–0.014)	< 0.0001

Data are presented as median (interquartile range, IQR). Differences between groups were analyzed using the Mann–Whitney U test due to non-normal distribution of variables. A two-sided *P* value < 0.05 was considered statistically significant. Engagement Index (%) was calculated as (likes + comments + shares + favorites) / followers × 100, and Daily Engagement (%) as Engagement Index divided by days since publication.

Douyin videos had significantly higher median numbers of likes (88.5 [34.5–258.75] vs 38.5 [8.0–146.0], $P = 0.0019$) and comments (8.5 [2.0–39.0] vs 0.0 [0.0–5.0], $P < 0.0001$) than BiliBili videos. No significant between-platform differences were observed for favorites or shares. BiliBili videos were significantly longer than Douyin videos (242.0 [105.75–714.5] s vs 80.5 [47.75–149.5] s, $P < 0.0001$). Normalized engagement metrics were higher on Douyin, including both engagement index (2.861% [0.922–7.842] vs 1.149% [0.255–6.828], $P = 0.0434$) and daily engagement (0.027% [0.004–0.115] vs 0.002% [0.001–0.014], $P < 0.0001$).

3.2 Video creator information

Table 2
Verification status by platform

Verification Status	Douyin, n (%)	BiliBili, n (%)	*P* value
Verified	90 (91.8%)	39 (46.4%)	< 0.001
Non-verified	8 (8.2%)	45 (53.6%)	

Table 3
Uploader types by platform

Uploader types	Douyin, n (%)	BiliBili, n (%)	*P* value
Doctors	71 (72.4%)	34 (40.5%)	< 0.001
Hospitals/Institutions	9 (9.2%)	5 (6.0%)	
Science communicators	10 (10.2%)	29 (34.5%)	
Individuals	6 (6.1%)	8 (9.5%)	
Media	0 (0%)	4 (4.8%)	
Others	2 (2.0%)	4 (4.8%)	

Table 4
Video formats by platform

Video formats	Douyin, n (%)	BiliBili, n (%)	*P* value
Live explanation	78 (79.6%)	61 (72.6%)	0.596
Animation	7 (7.1%)	7 (8.3%)	
Scenario-based	4 (4.1%)	2 (2.4%)	
Mixed	2 (2.0%)	3 (3.6%)	
Other	7 (7.1%)	11 (13.1%)	

Data are presented as number (percentage).

Differences between groups were analyzed using the chi-square test. A two-sided *P* value < 0.05 was considered statistically significant.

Significant differences were observed between Douyin and BiliBili in terms of verification status and uploader type. The proportion of verified accounts was significantly higher on Douyin compared to BiliBili (91.8% vs 46.4%, $P < 0.001$). In addition, videos on Douyin were predominantly uploaded by doctors (72.4%), whereas BiliBili had a higher proportion of science communicators (34.5%) ($P < 0.001$). However, no significant difference was found in video presentation formats between the two platforms ($P = 0.596$), with live explanation being the most common format on both platforms.

3.3 Content characteristics of videos

Table 5
Content characteristics of videos

Content Component	Douyin, n (%)	BiliBili, n (%)	*P* value
Definition	80 (81.6)	37 (44.0)	< 0.001
Etiology	22 (22.4)	20 (23.8)	0.828
Risk factors	33 (33.7)	17 (20.2)	0.043
Symptoms	45 (45.9)	31 (36.9)	0.219
Diagnosis	51 (52.0)	24 (28.6)	0.001
Treatment	62 (63.3)	56 (66.7)	0.632
Prevention	47 (48.0)	17 (20.2)	< 0.001
Outcomes	95 (96.9)	79 (94.0)	0.343

Data are presented as number (percentage). Differences between groups were analyzed using the chi-square test. $P < 0.05$ was considered statistically significant.

The proportions of videos covering eight core content components were compared between platforms: definition, etiology, risk factors, symptoms, diagnosis, treatment, prevention, and outcomes. Data are presented as percentages, with the corresponding numbers of videos shown above the bars. **P < 0.05, **P < 0.01, ***P < 0.001*.

Regarding individual content components, Douyin videos more frequently included disease definition (81.6% vs 44.0%, $P < 0.001$), risk factors (33.7% vs 20.2%, $P = 0.043$), diagnosis (52.0% vs 28.6%, $P = 0.001$), and prevention (48.0% vs 20.2%, $P < 0.001$) than BiliBili videos. No statistically significant between-platform differences were found for etiology, symptoms, treatment, or outcomes. Notably, etiology and risk factors were infrequently addressed on both platforms, indicating incomplete coverage of several important educational domains.

3.4 Quality Scores

Table 6
Comparison of video quality scores between Douyin and BiliBili

Variable	Douyin	BiliBili	*P* value
Content score	4.5 (3.0–5.0)	3.0 (2.0–4.25)	< 0.001
mDISCERN score	19.0 (17.0–21.0)	17.0 (13.0–20.0)	< 0.001
PEMAT score	12.0 (11.0–13.0)	11.0 (11.0–12.0)	0.003
JAMA score	2.0 (2.0–2.0)	2.0 (2.0–3.0)	< 0.001
GQS	4.0 (4.0–5.0)	3.0 (3.0–4.0)	< 0.001

Data are presented as median (interquartile range, IQR).

Differences between groups were analyzed using the Mann–Whitney U test.

A two-sided *P* value < 0.05 was considered statistically significant

Content score, mDISCERN score, PEMAT score, JAMA score, and GQS were compared between the two platforms. Data are shown as median with interquartile range. *$P < 0.05$.

Quality assessment showed that Douyin videos had significantly higher content scores (4.5 [3.0–5.0] vs 3.0 [2.0–4.25], $P < 0.001$), mDISCERN scores (19.0 [17.0–21.0] vs 17.0 [13.0–20.0], $P < 0.001$), PEMAT scores (12.0 [11.0–13.0] vs 11.0 [11.0–12.0], $P = 0.003$), and GQS scores (4.0 [4.0–5.0] vs 3.0 [3.0–4.0], $P < 0.001$). BiliBili videos had slightly higher JAMA scores (2.0 [2.0–3.0] vs 2.0 [2.0–2.0], $P < 0.001$), suggesting better source transparency despite lower overall educational quality.

3.5 Predictors of High-Quality Videos

Table 7
Multivariable logistic regression analysis of factors associated with high-quality videos

Variable	β (Coefficient)	OR (95% CI)	*P* value
Platform (Douyin vs BiliBili)	-1.767	0.17 (0.02–1.27)	0.084
Structural content	1.076	2.93 (1.59–5.42)	0.001
mDISCERN score	1.700	5.48 (2.70–11.11)	< 0.001
PEMAT score	-0.225	0.80 (0.50–1.28)	0.353
JAMA score	0.555	1.74 (0.33–9.24)	0.515

A multivariable logistic regression analysis was performed to identify factors associated with high-quality videos (GQS ≥ 4).

Odds ratios (ORs) with 95% confidence intervals (CIs) are presented.

A two-sided *P* value < 0.05 was considered statistically significant.

Forest plot showing odds ratios and 95% confidence intervals for variables associated with high-quality videos, defined as GQS ≥ 4.

In the multivariable logistic regression model, higher structural content score (OR = 2.93, 95% CI: 1.59–5.42, *P* = 0.001) and higher mDISCERN score (OR = 5.48, 95% CI: 2.70–11.11, *P* < 0.001) were independently associated with high-quality videos. Platform, PEMAT score, and JAMA score were not independently associated with the high-quality outcome.

3.6 Correlation Analysis

Table 8
Spearman correlation analysis among video quality, reliability, content, and engagement metrics

Variable 1	Variable 2	ρ	*P* value	Strength	Significance
GQS	mDISCERN	0.897	< 0.001	Strong	Significant*
GQS	Content score	0.417	< 0.001	Moderate	Significant*
GQS	JAMA score	0.290	< 0.001	Weak	Significant*
GQS	Engagement index	-0.017	0.818	Weak	Not significant
GQS	Daily engagement	0.120	0.107	Weak	Not significant
mDISCERN	JAMA score	0.443	< 0.001	Moderate	Significant*
mDISCERN	Content score	0.417	< 0.001	Moderate	Significant*
mDISCERN	Engagement index	-0.098	0.189	Weak	Not significant
mDISCERN	Daily engagement	0.003	0.963	Weak	Not significant
Content score	JAMA score	0.000	1.000	Weak	Not significant
Content score	Engagement index	-0.038	0.614	Weak	Not significant
Content score	Daily engagement	0.046	0.538	Weak	Not significant
JAMA score	Engagement index	-0.184	0.013	Weak	Significant*
JAMA score	Daily engagement	-0.389	< 0.001	Moderate	Significant*
Engagement index	Daily engagement	0.760	< 0.001	Strong	Significant*

ρ, Spearman correlation coefficient. Correlation strength was interpreted as weak (|ρ| < 0.3), moderate (0.3 ≤ |ρ| < 0.6), and strong (|ρ| ≥ 0.6). **P* < 0.05 was considered statistically significant (two-sided). GQS, Global Quality Score; mDISCERN, modified DISCERN instrument; JAMA, Journal of the American Medical Association benchmark criteria.

Heatmap showing pairwise Spearman correlations among GQS, mDISCERN score, content score, JAMA score, engagement index, and daily engagement. Correlation coefficients are displayed within each cell and color-coded according to their magnitude and direction.

Spearman correlation analysis demonstrated that GQS was strongly correlated with mDISCERN score (ρ = 0.897, $P < 0.001$), moderately correlated with content score (ρ = 0.417, $P < 0.001$), and weakly correlated with JAMA score (ρ = 0.290, $P < 0.001$). In contrast, neither engagement index nor daily engagement was significantly correlated with GQS. In addition, mDISCERN score was moderately correlated with both JAMA score (ρ = 0.443, $P < 0.001$) and content score (ρ = 0.417, $P < 0.001$). JAMA score showed a weak negative correlation with engagement index (ρ = -0.184, $P = 0.013$) and a moderate negative correlation with daily engagement (ρ = -0.389, $P < 0.001$). Engagement index was strongly correlated with daily engagement (ρ = 0.760, $P < 0.001$), whereas content score showed no significant correlation with either engagement metric or JAMA score.

4. Discussion

In recent years, the application of social media in public health education has expanded rapidly, becoming an indispensable tool for disseminating health information and conducting patient education [13]. Public health organizations and medical professionals are increasingly leveraging platforms such as Douyin and BiliBili to deliver oncology-related content to broad audiences [14]. Our study confirms this trend in the field of bladder cancer (BCa), revealing a significant ecological niche differentiation between the two platforms. In this respect, the present study adds to the existing literature by focusing on a urologic malignancy with substantial patient education needs and by comparing two major Chinese-language video platforms with different communication ecologies through an integrated framework encompassing content coverage, reliability, understandability, engagement, and predictors of high-quality videos.

Our findings revealed substantial differences between the two platforms. Douyin videos demonstrated significantly higher engagement levels and superior information quality, whereas BiliBili videos were longer in duration but exhibited relatively lower interaction and quality. These findings are consistent with previous studies indicating that short-form video platforms are more effective in attracting user attention [15] and facilitating health information dissemination [16].

Douyin videos showed significantly higher likes, comments, and engagement indices compared with BiliBili, suggesting stronger user interaction. Previous research has shown that concise and visually engaging videos are more likely to enhance audience engagement [17–18] and improve information retention. However, high engagement does not necessarily indicate high-quality information. Several studies have reported that widely viewed health-related videos often lack accuracy or completeness [19–20]. This discrepancy was also observed in our study, where engagement metrics were not significantly correlated with quality indicators.

A notable difference between platforms was observed in verification status and uploader identity. Douyin had a significantly higher proportion of verified accounts and physician-generated content, whereas BiliBili included more non-verified creators and science communicators. This distinction is clinically important, as physician-produced content has been shown to be more reliable and evidence-based [21–23]. Although science communicators may enhance accessibility, they may lack clinical depth, particularly in complex diseases such as bladder cancer.

Content analysis demonstrated that Douyin videos more frequently covered several key educational components, including disease definition, risk factors, diagnosis, and prevention. In contrast, no significant between-platform differences were observed for etiology, symptoms, treatment, or outcomes. Nevertheless, both platforms showed insufficient coverage of important topics, particularly etiology and risk factors. This finding is especially relevant in the context of bladder cancer, which is strongly associated with modifiable exposures such as smoking [24] and occupational carcinogens [25]. Inadequate communication of these topics may weaken public awareness and limit the preventive value of online health education.

Quality evaluation using validated tools (mDISCERN, PEMAT, JAMA, and GQS) consistently demonstrated higher scores for Douyin videos. These tools are widely used to assess the reliability, understandability, and overall quality of health information. Higher mDISCERN and GQS scores indicate that Douyin videos are more structured and reliable, which is essential for improving patient understanding and supporting clinical decision-making.

Multivariable logistic regression analysis identified structural content and mDISCERN score as independent predictors of high-quality videos. This suggests that well-organized information and reliable sources are key determinants of video quality. These findings are consistent with previous studies showing that structured and evidence-based content significantly improves the effectiveness of health communication [26].

Correlation analysis revealed a strong association between GQS and mDISCERN score, as well as a moderate association between GQS and content score. By contrast, engagement indicators were not significantly correlated with GQS, suggesting that user attention does not necessarily reflect the educational quality of bladder cancer-related videos. In addition, JAMA score was negatively associated with both engagement index and daily engagement, indicating that videos with better source transparency did not necessarily generate higher interaction. These findings [27] further support the notion that popularity should not be regarded as a surrogate marker of medical quality on social media platforms.

Bladder cancer is characterized by painless hematuria as an early symptom, high recurrence rates, and complex treatment strategies requiring long-term management. Therefore, accurate and comprehensive patient education is critical. However, our findings indicate that preventive information and risk factors

are insufficiently addressed on both platforms. These gaps may contribute to delayed diagnosis and reduced patient awareness, ultimately affecting clinical outcomes.

Improving the quality of online health information requires increased participation of healthcare professionals, standardized content frameworks, and platform-level quality regulation. Previous studies have emphasized the need for quality control mechanisms in digital health communication to reduce misinformation and improve patient outcomes.

In conclusion, Douyin videos demonstrated higher engagement and superior information quality compared with BiliBili videos, largely due to greater professional involvement and better structured content. However, both platforms exhibited deficiencies in preventive and etiological information, highlighting the need for improved digital health communication strategies in bladder cancer education.

Nevertheless, several limitations should be acknowledged. First, this study included only bladder cancer–related videos from two Chinese video-sharing platforms, which may limit the generalizability of the findings to other diseases, regions, languages, or social media environments. Second, because this was a cross-sectional study, all videos were assessed at a single time point, and changes in video performance, platform algorithms, and user interaction over time could not be captured. Third, although validated instruments, including mDISCERN, GQS, JAMA, PEMAT, and content scores, were applied, the evaluation process inevitably involved a degree of subjective judgment. Fourth, engagement indicators such as likes, favorites, shares, and daily engagement reflect viewer attention rather than actual comprehension, behavioral change, or long-term knowledge retention. Finally, this study did not further investigate audience characteristics, platform recommendation mechanisms, or the real-world clinical consequences of exposure to incomplete or inaccurate information. Future studies incorporating multi-platform, longitudinal, and user-centered designs are warranted to provide a more comprehensive understanding of the educational and public health value of bladder cancer videos on social media.

5. Conclusion

In conclusion, bladder cancer–related videos on Douyin and BiliBili showed marked differences in engagement, content characteristics, quality, and reliability. Douyin videos generally showed higher engagement and better overall educational quality, whereas BiliBili videos were longer and showed a limited advantage in source transparency. Importantly, higher popularity did not necessarily indicate better medical quality, suggesting that user attention and informational reliability are not always aligned on social media platforms. Videos with clearer organization, broader topic coverage, and more credible sources were more likely to achieve higher quality scores. These findings highlight the need for greater involvement of physicians and professional healthcare organizations in the creation and dissemination of bladder cancer–related video content, in order to improve the accuracy, completeness, and educational value of online health information.

Declarations

Additional Information

The authors declare no competing interests.

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Author Contribution

H.Y. conceived and designed the study. H.Y. and Y.W. collected and recorded the data. H.Y. and H.C. independently assessed the quality of the videos. B.J. verified the data and acted as the adjudicator when disagreements arose between H.Y. and H.C. regarding video quality assessment. H.Y. drafted the manuscript. All authors reviewed and approved the final manuscript.

Data Availability

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

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Figures

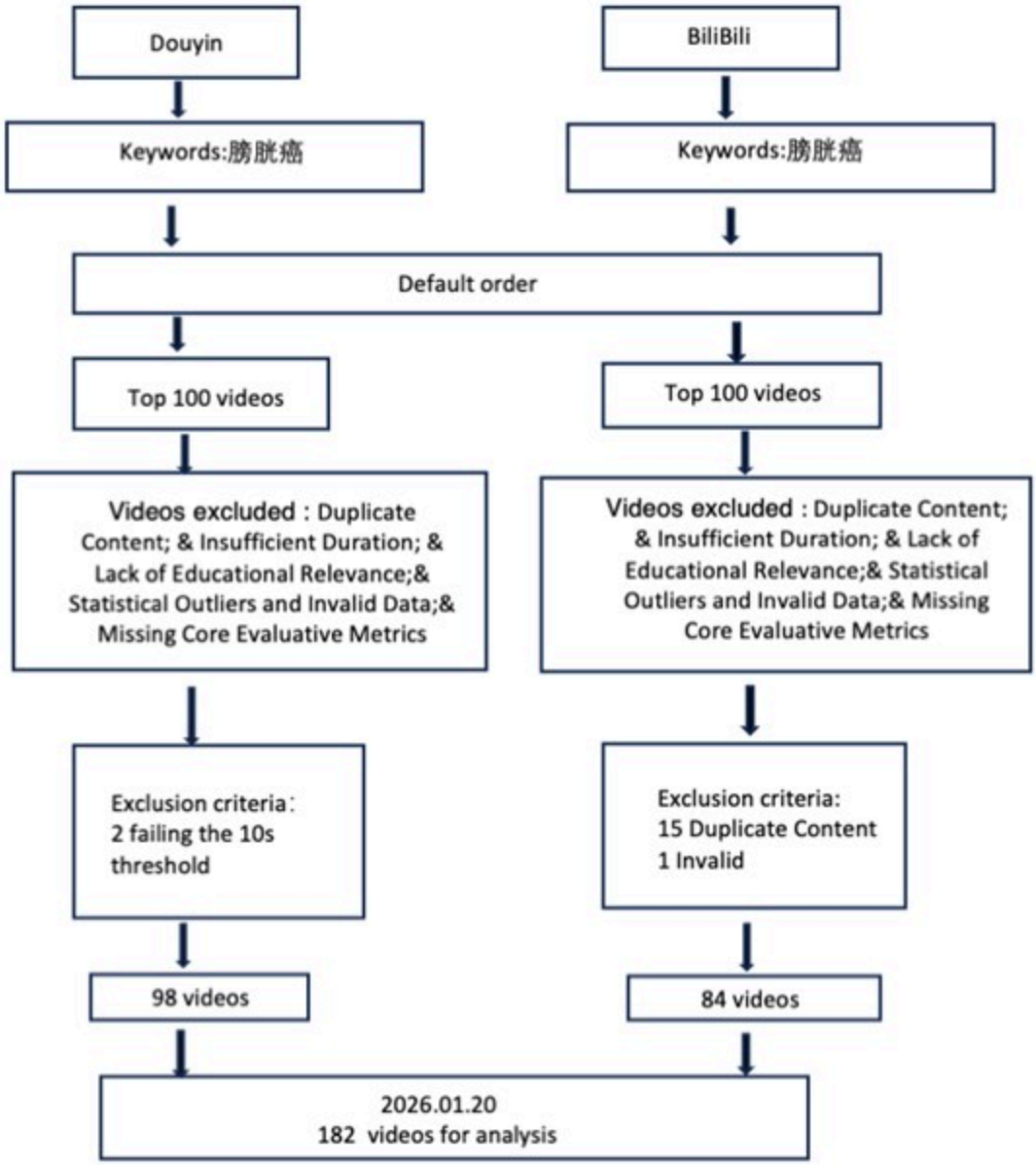


Figure 1

Flow diagram of video selection on Douyin and BiliBili.

The top 100 videos were retrieved from each platform using the keyword "□□□" on January 20, 2026. After exclusion of duplicate videos, videos shorter than 10 seconds, videos lacking educational relevance, videos with invalid data, and videos missing core evaluative metrics, 182 videos were included in the final analysis (Douyin, n = 98; BiliBili, n = 84).

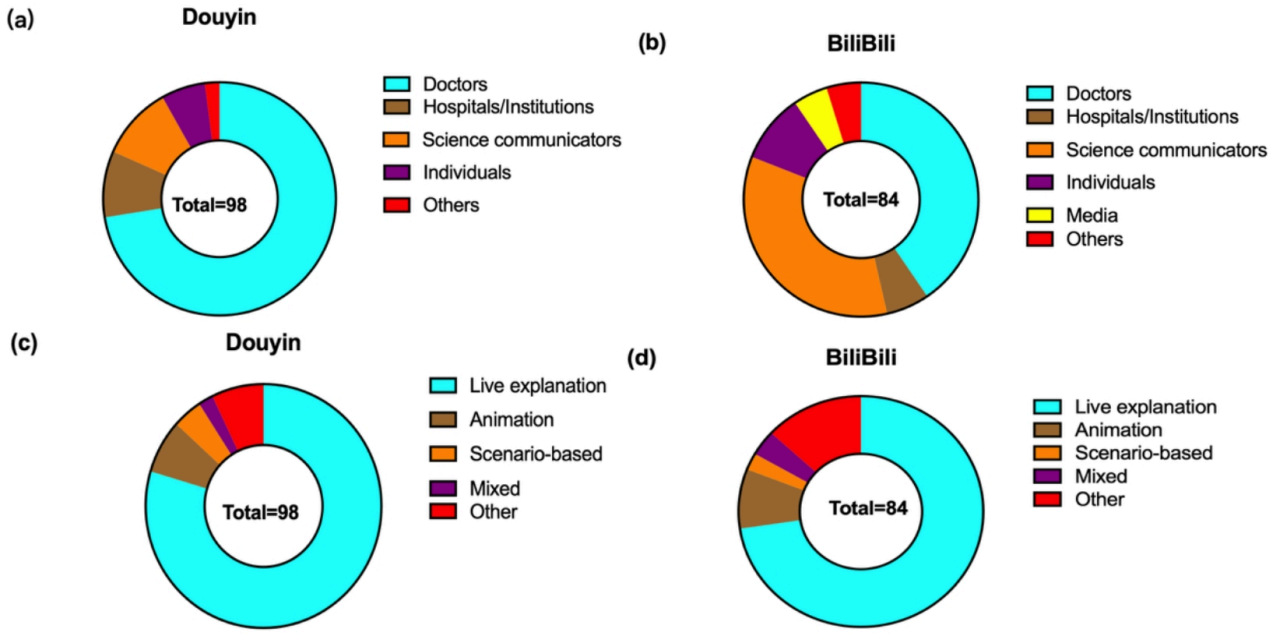


Figure 2

Distribution of uploader types and video formats on Douyin and BiliBili.

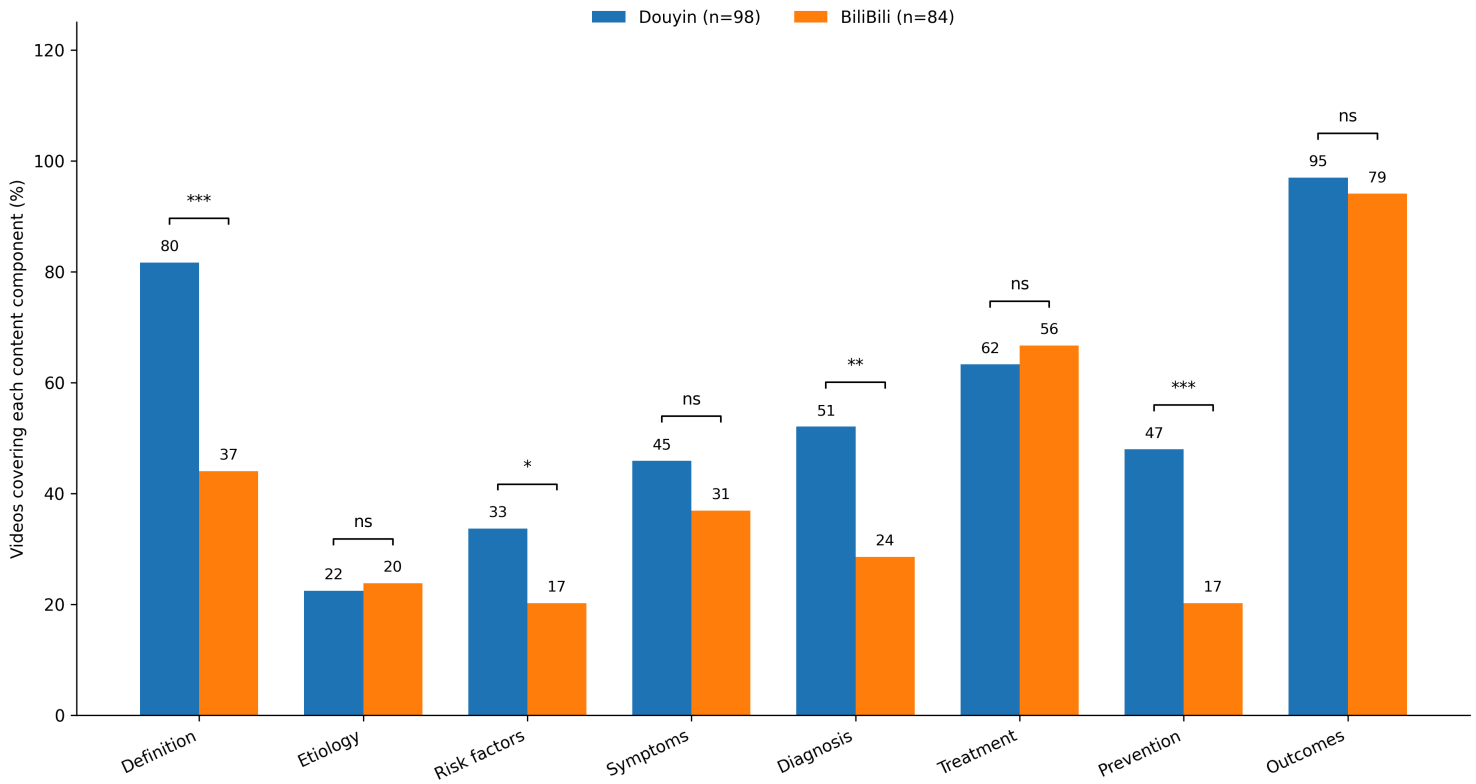


Figure 3

Comparative analysis of content coverage in bladder cancer-related videos on Douyin and BiliBili.

The proportions of videos covering eight core content components were compared between platforms: definition, etiology, risk factors, symptoms, diagnosis, treatment, prevention, and outcomes. Data are presented as percentages, with the corresponding numbers of videos shown above the bars. **P < 0.05, **P < 0.01, ***P < 0.001*.

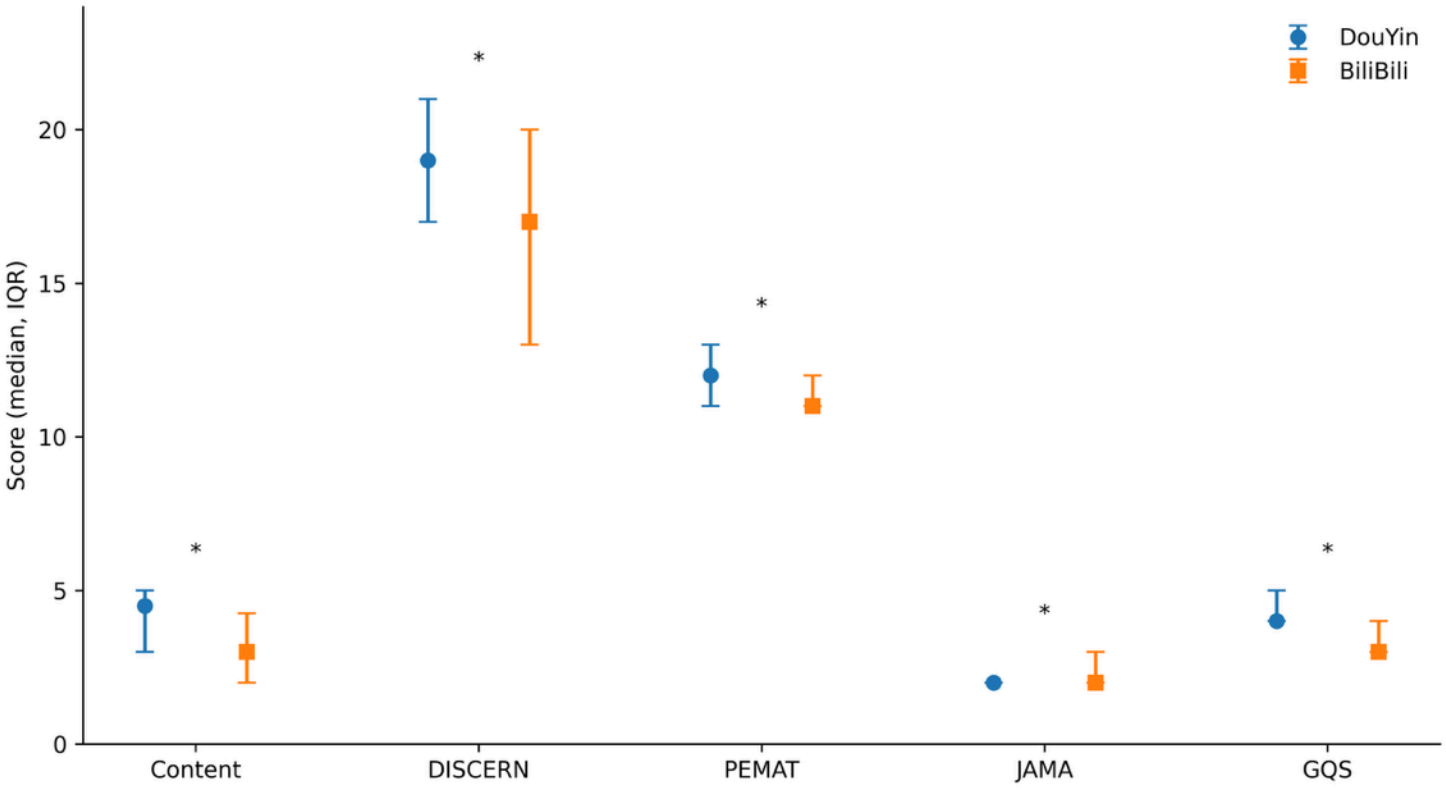


Figure 4

Comparison of video quality scores between Douyin and BiliBili.

Content score, mDISCERN score, PEMAT score, JAMA score, and GQS were compared between the two platforms. Data are shown as median with interquartile range.