

The quality and reliability of short videos about liver cirrhosis on Bilibili and TikTok: Cross-sectional study

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Abstract

Background

Cirrhosis is a major global public health burden, with a high prevalence in China. Short video platforms such as TikTok and Bilibili have become key channels for disseminating cirrhosis-related health information, but concerns remain regarding the quality and reliability of such content.

Objective

This study aimed to systematically evaluate the quality, reliability, and user engagement of cirrhosis-related short videos on TikTok and Bilibili, providing insights for optimizing health communication.

Methods

A cross-sectional study was conducted. Using "cirrhosis" as the keyword, 157 eligible videos (74 from TikTok, 83 from Bilibili) were selected. Video quality and reliability were assessed using the Global Quality Score (GQS), modified DISCERN (mDISCERN), and JAMA scoring tools. Demographic characteristics, content categories, and user engagement metrics were analyzed with nonparametric tests and correlation analysis.

Results

The median GQS, mDISCERN, and JAMA scores were 3 (IQR 3–4), 2 (IQR 2–2), and 3 (IQR 3–3), respectively. TikTok videos had higher user engagement (median likes: 1987 vs. 51) but shorter duration (57s vs. 328s) and lower GQS (3 vs. 4) than Bilibili. Videos by hepatologists and other specialists showed significantly higher quality scores than those by TCM practitioners and non-professionals. No significant correlation was found between user engagement and video quality.

Conclusions

Cirrhosis-related short videos on TikTok and Bilibili have suboptimal scientific quality. Bilibili provides more in-depth content, while TikTok has higher popularity. Professional background of uploaders is a key determinant of content quality. Platforms should strengthen qualification review and content supervision to improve health information equity.

1. Introduction

Cirrhosis is the 11th most common cause of death worldwide, accounting for 3.5% of global deaths together with liver cancer^[1]. China has nearly 10 million cirrhosis patients, with a prevalence rate of 0.51%, and approximately a quarter of its population suffers from liver diseases^[2–3]. Cirrhosis results from chronic liver inflammation followed by diffuse hepatic fibrosis, in which normal liver architecture is replaced by regenerative hepatic nodules, ultimately leading to liver failure^[4]. The progression of cirrhosis from the asymptomatic compensated stage to the decompensated stage can last for months to years, which is closely associated with patients' lifestyles. With the continuous advancement of economic life, the incidence rates of alcoholic liver disease and metabolic associated fatty liver disease are rising, increasingly becoming the leading causes of cirrhosis^[5]. Therefore, the early diagnosis of cirrhosis, timely intervention, and improved public awareness are crucial for enhancing patients' health outcomes and promoting social well-being.

In the digital era, electronic information has become an increasingly important source for people to access health science popularization. Compared with tedious textual information and academic resources, individuals prefer vivid, engaging, and visually appealing video content^[6]. Short video platforms such as TikTok^[7] and Bilibili^[8] have emerged as key channels for disseminating health information due to their simplicity, vivid visual effects, and interactivity^[9]. Traditional channels for acquiring health knowledge remain authoritative; however, short videos present complex health issues in an accessible manner, offering greater immediacy and convenience. They also help break down knowledge barriers, thereby achieving more effective science popularization^[10]. Nevertheless, the dissemination of health information on short video platforms is not without risks: the lack of strict regulation and peer review

results in inconsistent content quality, with some videos containing misleading or false information. This may distort the public's understanding of diseases, treatments, and healthy habits, thereby influencing health behaviors and posing potential health risks^[11].

This study focuses on two major platforms, TikTok and Bilibili, aiming to fill the research gap in the field through a comprehensive examination of short videos on the topic of "cirrhosis". It is hypothesized that such disease-related short videos may suffer from insufficient scientific quality and credibility, which could interfere with the audience's accurate understanding of cirrhosis. The core research objectives are to systematically analyze the scientific rigor, information reliability of these videos, and their practical impact on public health science popularization. Supported by empirical data and systematic analysis, this study intends to provide references for optimizing the quality of health science popularization content on short video platforms, while offering robust support for the development of relevant platform governance norms and regulatory frameworks.

2. Materials and Methods

Ethical Considerations

This study did not utilize clinical data, human specimens, or experimental animals. All information was sourced from publicly available short videos on TikTok and Bilibili, and none of the data involved personal privacy. Furthermore, this study did not involve any interaction with users; therefore, ethical review was not required.

2.1 Search Strategy and Data Extraction

The primary objective of this study was to collect short video data on the topic of "liver cirrhosis" from Bilibili (<https://www.bilibili.com>) and TikTok (<https://www.douyin.com>). To ensure the comprehensiveness and representativeness of the data, the Chinese term "肝硬化" was used as the core search keyword. Data collection was conducted separately on the two platforms. To minimize bias from personalized recommendations, all searches were performed under newly created accounts and in incognito mode, ensuring no historical data or personalized algorithms influenced the results. For each platform, the top 100 videos as of October 21, 2025, were retrieved. Videos were included if they directly addressed the etiology, symptoms, diagnosis, treatment, or prevention of liver cirrhosis and were publicly accessible (excluding private or restricted content). Videos were excluded if they were identified as: (1) personal experience sharing by patients; (2) advertisements; (3) content irrelevant to liver cirrhosis or only mentioning liver cirrhosis superficially without substantive information; or (4) duplicated or re-uploaded content that had already been analyzed. During data extraction, the following variables were recorded: video source (Bilibili/TikTok), upload time, video duration (in seconds), number of likes, number of comments, number of shares, and number of favorites. All data were extracted using the public Application Programming Interfaces (APIs) provided by the platforms to ensure accuracy and consistency. These variables provided robust support for subsequent content analysis.

2.2 Video Classification

Videos were categorized into four groups based on their sources: (1) hepatology specialists; (2) medical professionals in other fields; (3) traditional Chinese medicine practitioners; (4) patients and other science communicators. According to their content, videos were divided into four categories: (1) disease knowledge; (2) treatment; (3) prevention; (4) news and case reports. Detailed classification information is presented in Table 1.

2.3 Video Evaluation

The modified DISCERN (mDISCERN), Global Quality Score (GQS), and JAMA benchmarks were used to assess video reliability and information quality, whose validity has been confirmed in previous studies^[12–15]. Adapted from the original DISCERN tool by Singh et al., the mDISCERN tool evaluates video reliability across five dimensions: clarity, relevance, impartiality, consistency, and applicability. Compared with the original DISCERN tool, it demonstrates greater convenience and accuracy in assessing video materials^[16, 17]. The mDISCERN tool consists of five questions, with one point awarded for each question answered appropriately, resulting in a total score ranging from 0 to 5 (higher scores indicate better reliability). Proposed by Bernard et al., the GQS was initially developed to evaluate the information quality of websites and has now been widely adopted for assessing video information quality^[18]. It systematically rates video quality based on information quality, fluency, and practicality, with scores ranging from 1 (very poor) to 5 (excellent). The standards for evaluating the reliability of health information developed by The Journal of the American Medical Association (JAMA) were employed to assess four core aspects: author qualifications, citation of sources, disclosure of conflicts of interest, and timeliness of information content^[19]. Detailed scoring criteria for GQS, mDISCERN, and JAMA are provided in Supplementary Tables 1–3.

Video links were provided in tabular form to two assessors with relevant medical backgrounds, who received unified training prior to scoring. To minimize scoring bias, the order of video links was randomized. Before evaluating the videos, both assessors carefully reviewed the detailed scoring guidelines for GQS, mDISCERN, and JAMA. They independently watched and scored the videos simultaneously, while also classifying each video by source and content. In cases of discrepancies between the two assessors' scores, full discussions were conducted with a third observer to reach a consensus.

2.4 Statistical Analysis

This study employed descriptive statistics and nonparametric tests to analyze video characteristics and quality indicators. Categorical variables were presented as frequencies and percentages, while continuous variables were described using medians with interquartile ranges (IQR). The chi-square test or Fisher's exact test was used to assess differences in platform distribution, and the Mann-Whitney U test was applied to compare interaction data and quality scores between TikTok and Bilibili. For multiple-group comparisons among videos from experts, non-experts, and individual users, the Kruskal-Wallis test was utilized. Cohen's kappa coefficient evaluated the inter-rater reliability of the Global Quality Score (GQS), modified DISCERN (mDISCERN) score, and JAMA score, with a kappa value ≥ 0.8 indicating excellent agreement. Spearman's correlation analysis explored the relationships between GQS, mDISCERN, and JAMA scores. Statistical calculations were performed using IBM SPSS Statistics 27.0, and visualizations were generated with GraphPad Prism 10.4. A significance threshold of $p < 0.05$ was adopted. This analytical framework combines robust nonparametric methods with advanced statistical software, ensuring consistency with data distribution characteristics and clinical research standards.

3. Results

3.1 Basic Characteristics of the Videos

Based on the predefined inclusion and exclusion criteria, the top 100 videos from TikTok and Bilibili were screened, resulting in the final inclusion of 157 videos. The detailed selection process is illustrated in Fig. 1, and Table 1 presents the characteristics of the included videos. Regarding platform origin, TikTok contributed 74 videos, while Bilibili provided 83. In terms of creators, videos uploaded by experts predominated, accounting for 85.35%, followed by those from patients and other science communicators (14.65%) (Fig. 2). Overall, the interactive engagement of these videos was moderate. The median values for likes, comments, favorites, and shares per video were 223 (interquartile range [IQR]: 17–2357), 13 (IQR: 1–106), 157 (IQR: 13–1074), and 47.5 (IQR: 2.75–469), respectively. The median video duration was 118 seconds (IQR: 53–351). For video quality, the median Global Quality Score (GQS) was 3 (IQR: 3–4), the median modified DISCERN score was 2 (IQR: 2–2), and the median JAMA score was 3 (IQR: 3–3). Inter-rater reliability was excellent, with Cohen's Kappa values exceeding 0.8 for GQS, modified DISCERN scores, and JAMA scores.

Table 1
Video characteristics.

Variables	Total (n = 157)
Video duration, M (Q ₁ , Q ₃)	118.00 (53.00, 351.00)
Number of likes, M (Q ₁ , Q ₃)	223.00 (17.00, 2357.00)
Number of comments, M (Q ₁ , Q ₃)	13.00 (1.00, 106.00)
Number of collections, M (Q ₁ , Q ₃)	157.00 (13.00, 1074.00)
Number of shares, M (Q ₁ , Q ₃)	47.50 (2.75, 469.00)
Number Of Followers, M (Q ₁ , Q ₃)	32000.00 (6088.00, 167000.00)
GQS score, M (Q ₁ , Q ₃)	3.00 (3.00, 4.00)
Modified DISCERN score, M (Q ₁ , Q ₃)	2.00 (2.00, 2.00)
JAMA score, M (Q ₁ , Q ₃)	3.00 (3.00, 3.00)
Verification Status, n(%)	
unverified	75 (47.77)
verified	82 (52.23)
M: Median, Q ₁ : 1st Quartile, Q ₃ : 3st Quartile	

3.2. Video Content

Disease knowledge about liver cirrhosis is the most frequently discussed topic(Table 2), with 38.85% of the videos explaining relevant disease information. Videos covering disease treatment and prevention account for 23.57% and 11.46% respectively. A considerable proportion of the videos focus on news reports and individual treatment cases, which constitutes 26.11% of the total (Fig. 2B).

Table 2
video contents.

Variables	Total (n = 157)
Video contents, n(%)	
Disease knowledge	61 (38.85)
News and report	41 (26.11)
Prevention	37 (23.57)
Treatment	18 (11.46)

3.2.1. Cross-Platform Functional Comparison

Table 3 provides a detailed comparison of video functions and quality between TikTok and Bilibili, with significant differences observed between the two platforms. On Bilibili, videos uploaded by professional doctors from other fields account for 33.73%, whereas this figure is only 4.05% on TikTok. Regarding audience engagement, TikTok videos demonstrate significantly higher interaction levels than those on Bilibili. Specifically, the medians (interquartile ranges) of likes, comments, favorites, shares, and followers on TikTok are 1,987 (104.25–4,499.00), 84.00 (11.50–283.50), 837.50 (20.00–1,979.75), 361.00 (8.00–1,327.50), and 126,000.00 (48,000.00–386,000.00), respectively. In contrast, the corresponding medians (interquartile ranges) on Bilibili are 51.00 (10.00–309.00), 3.00 (0.00–16.50), 66.00 (7.50–293.00), 15.00 (1.00–79.50), and 7,868.00 (3,637.00–30,500.00). In terms of video duration, Bilibili’s videos are longer, with an average of 328 seconds, compared to only 57 seconds on TikTok—this discrepancy may be attributed to the distinct positioning of the two platforms. Regarding video quality, Bilibili’s videos achieve significantly higher GQS scores than TikTok’s. However, there are no statistically significant differences in mDISCERN or JAMA scores between the two platforms (Figs. 3A, 3B, 3C).

Table 3
Comparison of characteristics between different short-video platforms.

Variables	Bilibili (n = 83)	TikTok (n = 74)	Statistic	P
Video duration, M (Q ₁ , Q ₃)	328.00 (94.50, 1042.00)	57.00 (26.25, 121.25)	Z=-7.34	< .001
Number of likes, M (Q ₁ , Q ₃)	51.00 (10.00, 309.00)	1987.00 (104.25, 4499.00)	Z=-5.94	< .001
Number of comments, M (Q ₁ , Q ₃)	3.00 (0.00, 16.50)	84.00 (11.50, 283.50)	Z=-6.34	< .001
Number of collections, M (Q ₁ , Q ₃)	66.00 (7.50, 293.00)	837.50 (20.00, 1979.75)	Z=-4.00	< .001
Number of shares, M (Q ₁ , Q ₃)	15.00 (1.00, 79.50)	361.00 (8.00, 1327.50)	Z=-4.27	< .001
Number Of Followers, M (Q ₁ , Q ₃)	7868.00 (3637.00, 30500.00)	126000.00 (48000.00, 386000.00)	Z=-5.97	< .001
GQS score, M (Q ₁ , Q ₃)	4.00 (3.00, 4.00)	3.00 (2.00, 4.00)	Z=-4.97	< .001
Modified DISCERN score, M (Q ₁ , Q ₃)	2.00 (2.00, 2.00)	2.00 (2.00, 2.00)	Z=-1.87	0.061
JAMA score, M (Q ₁ , Q ₃)	3.00 (3.00, 3.00)	3.00 (3.00, 3.00)	Z=-2.38	0.017
Video source, n(%)			$\chi^2=22.08$	< .001
Hepatologist	20 (24.10)	23 (31.08)		
Other specialty doctors	28 (33.73)	3 (4.05)		
Patients or others	9 (10.84)	14 (18.92)		
TCM practitioner	26 (31.33)	34 (45.95)		
Video contents, n(%)			$\chi^2=38.26$	< .001
Disease knowledge	51 (61.45)	10 (13.51)		
News and report	14 (16.87)	27 (36.49)		
Prevention	11 (13.25)	26 (35.14)		
Treatment	7 (8.43)	11 (14.86)		
Verification Status, n(%)			$\chi^2=13.20$	< .001
unverified	51 (61.45)	24 (32.43)		
verified	32 (38.55)	50 (67.57)		

3.2.2. Comparison of Characteristics Among Different Video Sources

We further compared the functions and quality of videos based on their sources. Regarding video popularity, there were no statistically significant differences in the number of likes, comments, favorites, shares, or followers between videos uploaded by liver disease specialists, non-liver disease specialists, and patients (Table 4). However, significant differences were observed in video length and quality. Specifically, liver disease specialists and specialists in other fields achieved a GQS score of 4, both higher than the score of 3 for traditional Chinese medicine (TCM) practitioners. Notably, all medical professionals obtained significantly higher scores than patients, who scored 2 points (all with statistical significance). This indicates that videos uploaded by experts are substantially superior in quality. This trend was consistent in the comparisons of mDISCERN and JAMA scores: medical professionals scored 3 and 2 points, respectively, which were significantly higher than patients' scores of 2 and 1 (both with statistical significance). It is worth noting that although both liver disease specialists and non-liver disease specialists received a GQS score of 4, the median score of liver disease specialists was significantly higher than that of specialists in other fields. No significant differences were observed in the modified DISCERN scores or JAMA scores among the expert groups (Figs. 3D, 3E, 3F).

Table 4
Comparison of different video source

Variables	Hepatologist (n = 43)	Other specialty doctors (n = 31)	Patients or others (n = 23)	TCM practitioner (n = 60)	Statistic	P
Video duration, M (Q ₁ , Q ₃)	80.00 (38.50,226.00)	707.00 (265.00,1793.00)	118.00 (62.50,292.00)	81.00 (52.75,177.00)	$\chi^2=27.56\#$	< .001
Number of likes, M (Q ₁ , Q ₃)	183.00 (20.00,1968.50)	197.00 (26.50,555.00)	311.00 (40.50,4369.50)	221.00 (12.75,2647.50)	$\chi^2=0.75\#$	0.862
Number of comments, M (Q ₁ , Q ₃)	9.00 (0.50,99.00)	14.00 (2.50,52.50)	18.00 (3.50,413.00)	14.00 (0.00,120.25)	$\chi^2=1.71\#$	0.635
Number of collections, M (Q ₁ , Q ₃)	151.00 (14.00,960.00)	171.00 (52.00,383.00)	136.00 (14.00,1019.00)	198.50 (6.00,2045.25)	$\chi^2=0.44\#$	0.933
Number of shares, M (Q ₁ , Q ₃)	25.00 (5.50,427.50)	29.00 (9.50,119.50)	88.00 (1.75,1007.50)	65.00 (0.00,536.50)	$\chi^2=0.49\#$	0.921
Number Of Followers, M (Q ₁ , Q ₃)	33000.00 (8219.50,183000.00)	14000.00 (2812.50,202500.00)	8408.00 (3773.00,423500.00)	69000.00 (7801.00,126000.00)	$\chi^2=1.26\#$	0.739
GQS score, M (Q ₁ , Q ₃)	4.00 (4.00,4.00)	4.00 (3.00,4.00)	2.00 (2.00,2.00)	3.00 (3.00,3.00)	$\chi^2=74.93\#$	< .001
Modified DISCERN score, M (Q ₁ , Q ₃)	2.00 (2.00,2.00)	2.00 (2.00,2.00)	1.00 (1.00,2.00)	2.00 (2.00,2.00)	$\chi^2=59.83\#$	< .001
JAMA score, M (Q ₁ , Q ₃)	3.00 (3.00,3.00)	3.00 (3.00,3.00)	2.00 (2.00,3.00)	3.00 (3.00,3.00)	$\chi^2=33.67\#$	< .001

3.2.3 Correlation Analysis between Video Features and Quality

Figure 4 presents the correlation analysis between video features and video quality on TikTok and Bilibili platforms. On both platforms, there are significant correlations among the Global Quality Score (GQS), Journal of the American Medical Association (JAMA) score, and modified DISCERN score. For Bilibili, video duration shows a positive correlation with GQS and JAMA scores. Additionally, the engagement metrics (likes, comments, favorites, shares) exhibit significant correlations with each other on both platforms, whereas no significant correlations are observed between these engagement metrics and any of the quality scores.

4. Discussion

This study systematically evaluated the quality and reliability of 157 short videos related to cirrhosis on TikTok and Bilibili by employing the Global Quality Score (GQS), Modified DISCERN Score, and The Journal of the American Medical Association (JAMA) Benchmark Criteria. The core findings not only align with the conclusions of research on health science popularization short videos across multiple fields but also highlight the uniqueness of popular science regarding liver diseases, while providing clear evidence for future optimization directions.

4.1 Core Issues in the Quality and Reliability of Cirrhosis - Related Short Videos: Coexistence of Common and Specific Problems

In terms of overall quality, the scientificity and comprehensiveness of cirrhosis - related short videos remain at a low level. The median Modified DISCERN Score of the two platforms was only 2 points out of a total of 5. This result is highly consistent with the findings from quality assessments of short videos focusing on other conditions such as ankle sprains, premature ovarian insufficiency, and liver cancer^[10, 20, 21], reflecting a prevalent issue in health science popularization on short-video platforms—the inherent contradiction between the fragmented nature of short- form communication and the complexity of medical information^[22].

The median duration of videos on TikTok was merely 57 seconds. Even though the median duration of videos on Bilibili reached 328 seconds, most creators still had to make trade-offs between "attracting traffic" and "professional depth". Regarding content, 26.11% of the videos were news-based case studies. Such content tends to prioritize "communicability" over "professionalism", which is prone to the lack of key information including staging management of cirrhosis and prevention and treatment of complications. Misleading claims even emerged, such as overstating the curative effect of a single diet and downplaying the importance of regular follow-up examinations.

Of greater concern is that the weak correlation between video popularity and quality has further heightened the risk of misinformation dissemination. The median number of likes for videos on TikTok was 1,987, 38.9 times that of Bilibili, whereas its GQS score was only 3 points out of 5. This contrast between "high engagement and moderate quality" is consistent with the conclusions of other studies indicating that there is no significant correlation between user attention and the scientific validity of content^[23–24]. It demonstrates that the public has an urgent demand for health-related information on cirrhosis yet lacks the ability to screen high-quality content.

Particularly for high-risk groups of cirrhosis, such as patients with viral hepatitis, long-term heavy drinkers, and those with metabolic diseases, relying on low-quality videos to make health-related decisions may delay the timing of interventions during the compensated stage or lead to blind faith in unconventional treatment methods, thereby increasing the disease burden.

4.2 The Underlying Logic of Platform Differences: The Transmission Effect of Positioning, Users, and Content

The difference in short video quality between TikTok and Bilibili is essentially a chain reaction of platform positioning→user attributes→content orientation, rather than a mere "duration difference." Bilibili is core-positioned as a "professional content community," where users demonstrate higher acceptance of in-depth information: 61.45% of its videos focus on disease-related knowledge, and 33.73% of videos in other fields are uploaded by professional doctors. Although these creators are not hepatology specialists, their videos have a median duration of 707 seconds, enabling systematic explanations of cirrhotic disease characteristics and specific knowledge points—thus supporting a higher median GQS score (4 points). In contrast, TikTok's "high-interactivity, short-and-snappy" nature drives 36.49% of its videos to be news case-based content. While such content can quickly attract attention, it lacks core popular science information such as disease mechanisms and prevention/control measures, inevitably limiting its professional depth.

4.3 Uploaders' Professional Background: A Core Variable Determining Content Quality

This study confirms that uploaders' professional background is a key factor influencing video quality, exhibiting a hierarchical difference: hepatology specialists > physicians in other fields > traditional Chinese medicine (TCM) practitioners > non-professional uploaders. Specifically, the median Global Quality Score (GQS) of videos by hepatology specialists reaches 4 points. Although physicians in other fields are not specialists in hepatology, their videos are longer and more comprehensive, serving as a "basic popular science supplement." However, stricter review of cross-professional content is still needed to avoid the dissemination of misinformation.

Videos by TCM practitioners present a "coexistence of value and risk": such content accounts for 38.22%. Given the unique nature of TCM and its broad public acceptance, videos containing unidentifiable authenticity—such as folk remedies, exaggerated efficacy claims, and drug promotion—may emerge. Nevertheless, it is undeniable that TCM has unique value in the treatment of cirrhotic ascites, emotional regulation, and medicinal diet therapy^[25–26]. Consequently, the quality of TCM-related videos varies significantly.

Non-professional uploaders (patients and general users) face the most prominent issues: the median modified DISCERN score of their videos is only 1 point. Misleading expressions are common, such as recommending drugs based on personal experience and incorrectly equating fatigue or poor appetite with cirrhosis. Platforms must strictly restrict the dissemination scope of such content.

4.4 Research Limitations and Future Directions

This study has three limitations that need to be addressed in subsequent research: First, the platform coverage is relatively narrow, as mainstream short-video platforms such as Xiaohongshu and Kuaishou were not included, and there is a lack of cross-linguistic comparison with international platforms like YouTube, which may affect the representativeness of the sample. Second, the cross-sectional design fails to reflect the dynamic changes in video quality—for instance, whether content quality improves after platforms

introduce medical science popularization review mechanisms remains to be tracked. Third, the GQS, modified DISCERN, and JAMA scores rely on the subjective judgments of evaluators. Although errors were reduced through "unified training and consensus arbitration," a certain degree of subjectivity persists. It should be noted that the selection of "the top 100 videos on each platform" in this study is a common method in similar studies on cervical cancer, gonorrhea, and other topics^[27–28]. These videos have the most representative exposure and dissemination power, and can reflect the mainstream science popularization level of the platforms.

Future research can be carried out in three aspects: First, conduct "multi-platform comparative studies" by including Xiaohongshu, Kuaishou, etc., to analyze the differences in science popularization between "lifestyle platforms" and "professional video platforms." Second, design longitudinal studies to track the effects of intervention measures such as "platform establishment of medical science popularization whitelists" and "public disclosure of doctors' qualifications," and quantify the role of policies in improving quality. Third, explore AI-assisted evaluation tools to achieve objective quantification of video quality through "text recognition (whether evidence-based basis is mentioned)+image analysis (whether there are incorrect anatomical diagrams)," thereby reducing subjective errors.

4.5 Implications for Public Health and Platform Governance

Early intervention and maintenance of healthy lifestyle habits significantly improve the survival rate and quality of life of patients with liver cirrhosis^[29]. Therefore, the quality of popular science regarding this disease is directly related to the health management of nearly 10 million Chinese patients^[30]. For the general public, it is essential to establish a screening mindset of "verifying certification first, then evaluating content": prioritize videos from "hepatologists at Grade A tertiary hospitals" or "medically certified accounts," and remain vigilant against content claiming to "cure liver cirrhosis" without valid certification. For platforms, a "specialized review mechanism for medical popular science" should be established: on the one hand, requiring uploaders to disclose their professional qualifications; on the other hand, forming a "panel of liver disease experts" to conduct secondary reviews of high-traffic videos and remove misleading content. For health institutions, they may collaborate with major platforms to launch a "high-quality repository of liver cirrhosis popular science," encouraging official accounts of professional institutions to regularly publish authoritative content, thereby gradually squeezing out the space for low-quality information.

5. Conclusion

Our cross-sectional study demonstrates that videos shared by experts exhibit higher quality and reliability, providing viewers with more valuable information. Compared to Bilibili videos, TikTok videos show greater user engagement but similar scientific reliability and lower educational value. Spearman correlation analysis revealed that high user interaction on TikTok does not directly enhance video quality or scientific accuracy. In contrast, longer videos on Bilibili are more likely to deliver valuable health information, thereby improving overall video quality. In summary, short-form videos have become an important channel for cirrhosis science popularization, but the current quality still struggles to meet public needs. Only through a multi-pronged approach encompassing "platform-specific differentiation strategies+uploader qualification regulation+enhancement of public discernment ability" can cirrhosis science popularization truly fulfill its public health value of "prevention first and early intervention."

Declarations

Ethical considerations: This study did not use clinical data, human specimens, or laboratory animals. All information was obtained from publicly available TikTok and Bilibili videos, and none of the data involved personal privacy issues. Furthermore, this study did not involve any interaction with users; therefore, ethical review was not required.

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Author Contribution

Both first authors (LiWei Zeng and Yu Huang) made equal contributions to the study design, data collection and analysis, and manuscript preparation. • Jun Qin: Data curation • Yunxuan Bai: Data curation • Huanwei Zheng: Supervision, Writing – review & editing • Ping Meng: Supervision, Writing – review & editing

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Figures

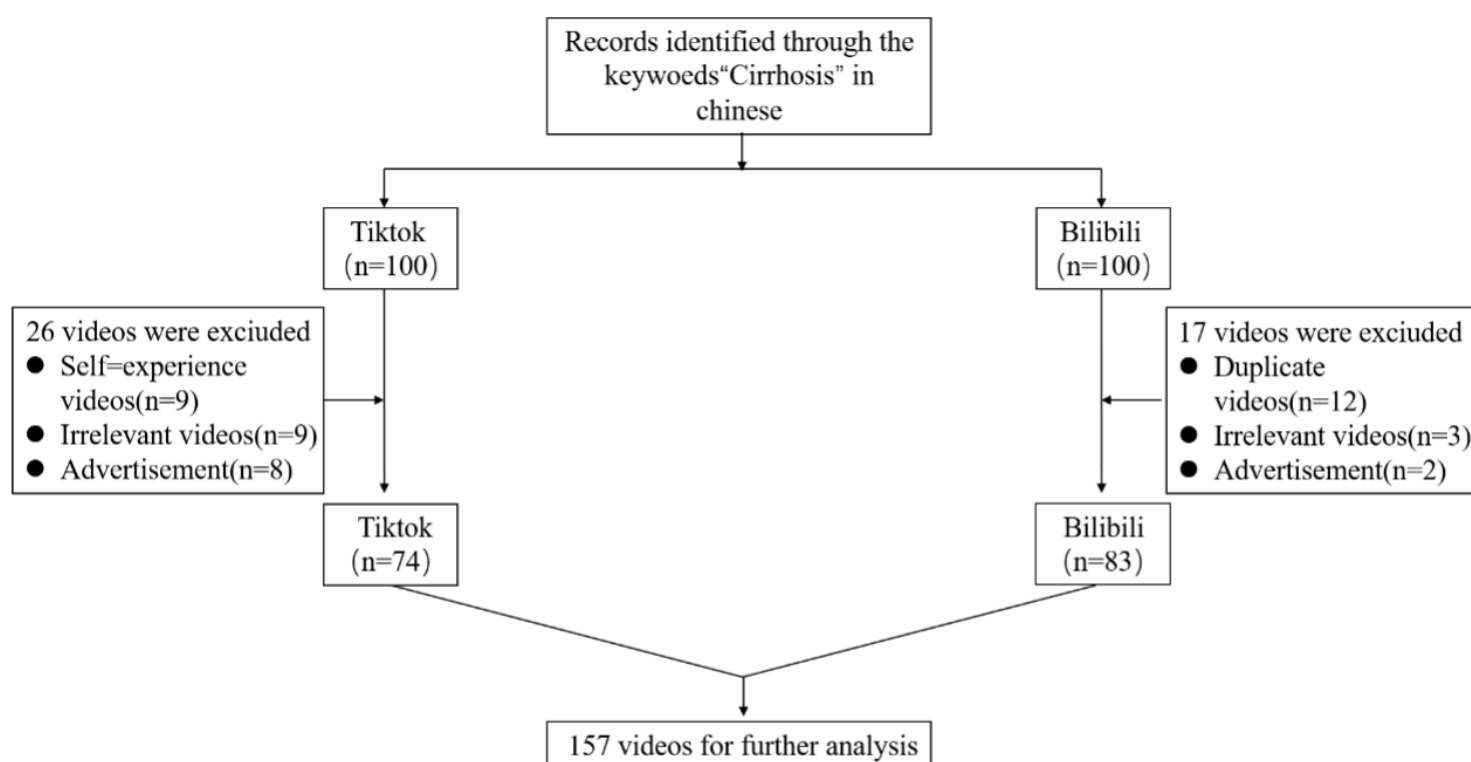


Figure 1

The flow chart of this study.

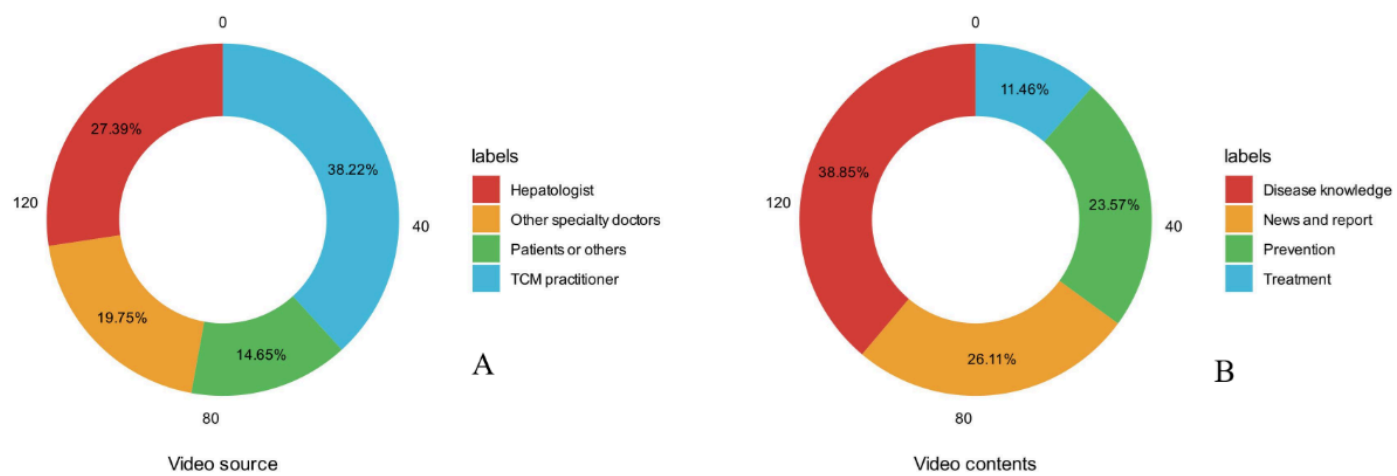


Figure 2

Video Source and Video Content Classification

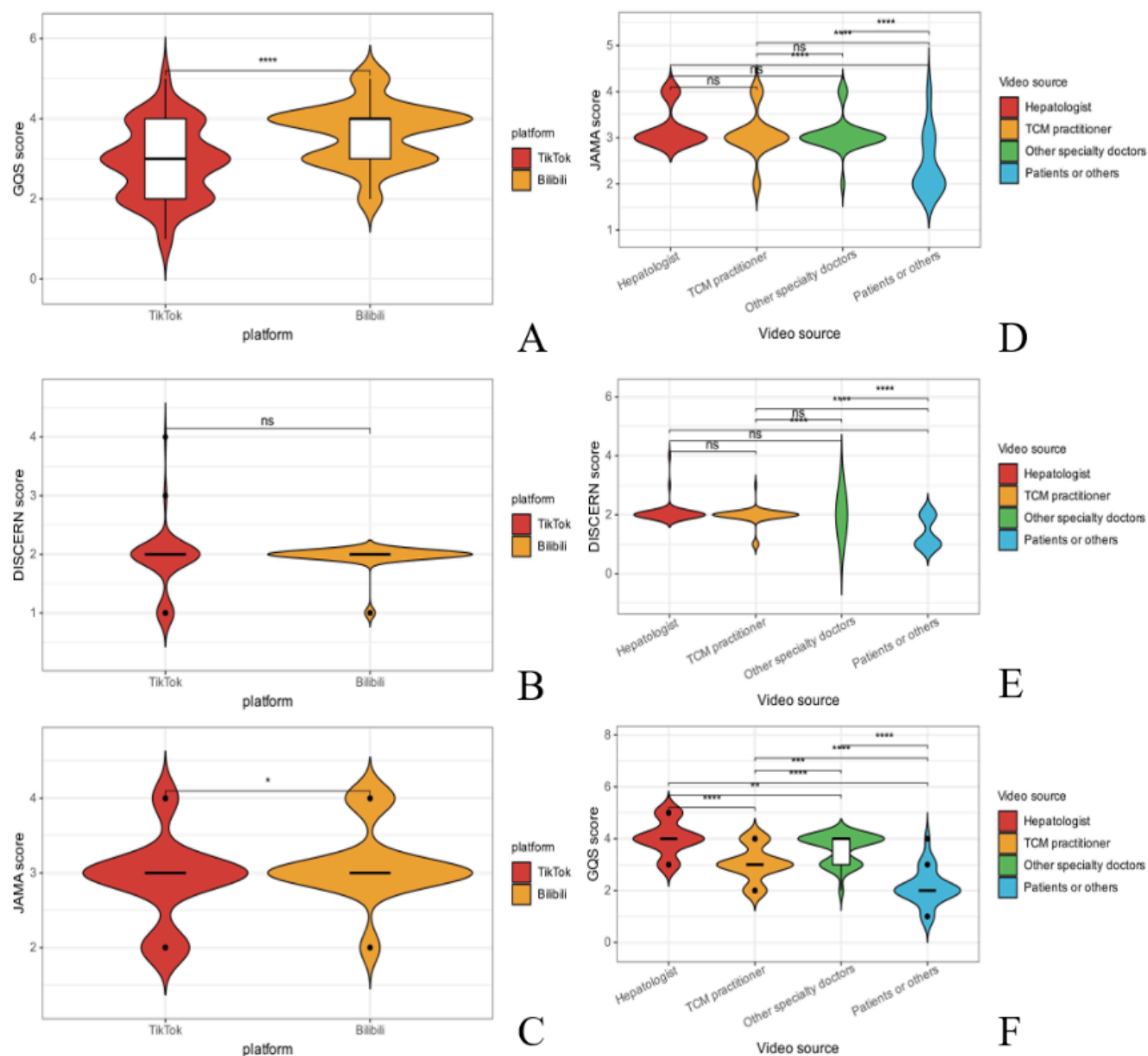


Figure 3

Comparison of video quality across different platforms and among various users. A. Comparison of GQS scores across different platforms B. Comparison of DISCERN scores on different platforms C. Comparison of JAMA scores across different platforms D. Comparison of GQS scores for videos from different sources E. Comparison of DISCERN scores for videos from different sources F. Comparison of JAMA scores for videos from different sources

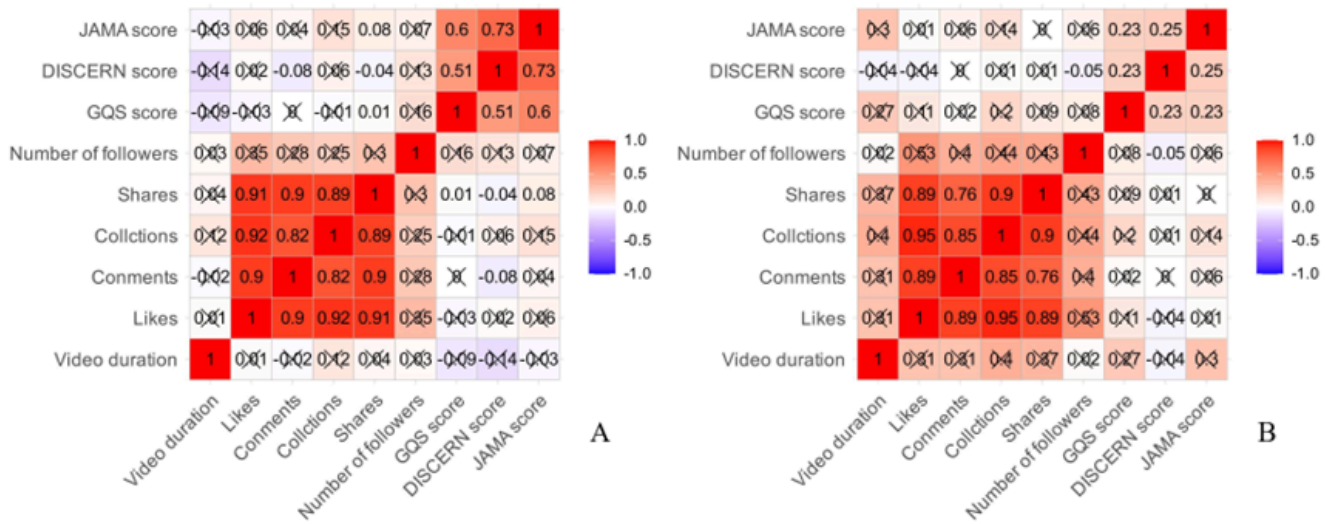


Figure 4

Correlation matrix of video engagement metrics and quality scores on TikTok and Bilibili. A. TikTok. B. Bilibili