Bilibili, TikTok, and YouTube as Sources of Information on Acute Pancreatitis: Assessment and Analysis of Content and Quality

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Mengqi Ying[1*]; Yuping Lai[2*]; Menghui Wang[3*]; Chengbo He[3]; Yin Li[3]; Wenjie Fu[3]; Huan Wang[3]; Yaobin Ouyang[4]; Chuan Xie[2]

[1]Department of Gastroenterology, the First Affiliated Hospital of Nanchang University, Nanchang, China Nanchang CN
[2]Department of Gastroenterology, the First Affiliated Hospital of Nanchang University Nanchang CN
[3]Department of Gastroenterology, the First Affiliated Hospital of Nanchang University, Nanchang, China. Nanchang CN
[4]Department of Oncology, Mayo Clinic, Rochester, MN 55905, USA Rochester US
[*]these authors contributed equally

Corresponding Author:
Chuan Xie
Department of Gastroenterology, the First Affiliated Hospital of Nanchang University
Department of Gastroenterology, the First Affiliated Hospital of Nanchang University, Nanchang, China
Nanchang
CN

Abstract

Background: Background Acute pancreatitis is a primarily sterile inflammation caused by premature intracellular protease activation, which has caught the attention of social media platforms such as Bilibili, TikTok, and YouTube. However, the content and quality of medical information on social media exists unclear and indeterminate.

Objective: The purpose of the study is to evaluate the content and quality of online videos about acute pancreatitis from Bilibili, TikTok, and YouTube

Methods: Methods A video search using acute pancreatic-related keywords was conducted on three video-sharing platforms: Bilibili, TikTok, and YouTube. We recorded basic information presented in the videos and identified the source and content type of each video. The educational content and quality of each video were evaluated using the Global Quality Scale (GQS), Journal of the American Medical Association (JAMA), and Modified DISCERN. A comparative analysis was conducted on the videos obtained from these three sources.

Results: Results 300 videos were considered for assessment. Most videos were provided by health professionals (50.7%, 152/300), followed by nonprofit organizations (27.7%, 83/300). Additionally, 13.2% of videos (36/300) were offered by science communicators, and 5.7% (17/300) were provided by general users. The remaining videos were uploaded by news agencies (3.3%, 10/300) and two for-profit organizations (0.7%, 2/300). The content types of the 300 videos were classified into five categories: clinical diagnosis (25%, 75/300), prognosis (5%, 15/300), etiologies and causations (6.7%, 20/300), scientific introductions (51%, 153/300), and treatment methods (12.3%, 37/300). The overall quality of the videos, as evaluated by GQS, JAMA, and Modified DISCERN, was found to be moderate, with scores of 2.67/5, 2.22/4, and 2.63/5 points, respectively.

Conclusions: Conclusions Video-sharing platforms have become easily accessible sources for patients seeking information about their diseases. This innovative study demonstrates that social media videos can facilitate public learning about clinical diagnosis, prognosis, treatment methods, etiologies and causations, and scientific introductions of acute pancreatitis. However, both the content and quality of uploaded videos are currently inadequate. In the future, greater efforts should be made to enhance the content and quality of videos on acute pancreatitis and increase public awareness.

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1 Department of Gastroenterology, the First Affiliated Hospital of Nanchang University, Nanchang, China.

2 Department of Oncology, Mayo Clinic, Rochester, MN 55905, USA.

3 The First Clinical Medical College of Nanchang University, Nanchang, China.

* These authors contributed equally
Corresponding Author:
Chuan Xie, MD, Department of Gastroenterology, The First Affiliated Hospital of Nanchang University, 17 Yong Waizheng Street, Donghu District, Nanchang 330006, Jiangxi Province, China; Email: xcsghhz@ncu.edu.cn

Abstract

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Keywords Acute pancreatitis, Quality, Online video, Social media

Introduction

Acute pancreatitis is the most prevalent non-malignant disorder of the gastrointestinal (GI) tract, characterized by severe abdominal pain, multiple organ dysfunction[1]. Globally, the incidence of acute pancreatitis stands at around 30-40 cases per 100,000 population per year, with certain regions experiencing more than twice that rate[2]. Approximately 80% of pancreatitis cases follow a self-limiting course without complications or prolonged hospitalization, while the remaining 20% progress to severe acute pancreatitis (SAP), which is associated with systemic complications and increased morbidity and mortality[3]. Consequently, acute pancreatitis imposes a

substantial global burden in terms of prevention and treatment. As a result, accurate diagnosis and effective management of this condition have emerged as critical priorities for medical professionals and patients alike [4-6].

In recent decades, there has been a rapid increase in the use of social media platforms, providing media practitioners with various ways to share information, express opinions, and exchange experiences[7]. Compared to traditional written texts such as brochures, social media platforms offer a more engaging means of presenting factual information, reaching individuals who may be deterred by lengthy text or face difficulties in reading. Recent reports indicate that 90% of patients rely on the internet to search for health-related information[8].

Social media platforms, including Bilibili, TikTok, and YouTube, wield significant influence over patients' understanding of symptoms, diagnostic procedures, treatments, as well as their opinions on health conditions, subsequently shaping their behaviors. These three platforms enjoy immense popularity as global video-sharing platforms. Over the course of more than a decade, Bilibili has evolved into a comprehensive video community with a predominantly young user base in China, leading the way in pop culture trends and emerging as a distinct entity within the Chinese Internet landscape[9]. TikTok, a mobile application that encourages users to upload short videos (typically under 3 minutes) with built-in special effects, filters, and stickers, has experienced rapid growth, quickly establishing itself as one of the world's most popular social media platforms[10]. YouTube, on the other hand, is a global open platform that hosts video content in various languages, including Chinese,

English, Portuguese, Spanish, French, etc. Known for its high-quality, specialized, and extensive selection of videos, YouTube has emerged as the world's second-largest search engine[11]. These characteristics establish Bilibili, TikTok, and YouTube as popular and diverse video-sharing platforms.

To summarize, these platforms have become easily accessible sources for patients to acquire information related to their diseases. However, limitations associated with the public's level of education and the accuracy of these social media platforms can lead to uneven or misleading content when disseminating information related to acute pancreatitis through these channels. To date, no scientific evaluation has been conducted on the quality of videos concerning acute pancreatitis that are available to the public. Given the increasing public interest in this disease, it is crucial to evaluate the effectiveness of media platforms in disseminating information about it. Therefore, our study analyzed videos on acute pancreatitis knowledge available on popular media platforms and utilized the Global Quality Scale (GQS), Journal of the American Medical Association (JAMA), and Modified DISCREN to rate online acute pancreatitis videos currently available on social media. The results of this study may encourage shared decision-making and benefit both patients and healthcare providers by enabling them to recommend appropriate videos to patients, thereby increasing participation rates in understanding and managing acute pancreatitis.

Materials and Methods

Search strategy

To examine the impact of acute pancreatitis-related information on the public, videos

were collected from three platforms: Bilibili (www.bilibili.com), TikTok (Chinese version: www.douyin.com), and YouTube (www.youtube.com). The time frame for video screening was up until December 8th, 2023. Video retrieval took place on a single day, December 9th, 2023, to minimize bias caused by newly uploaded videos. Therefore, the analysis started on December 10th, 2023. The search term used was "acute pancreatitis." Prior to searching, the search history on each platform was cleared. Videos were watched in order of their global rankings on each platform, from highest to lowest. Detailed information about all analyzed videos was recorded for further analysis.

Three independent investigators (Menghui W, Huan W, and Wenjie F) reviewed and evaluated the videos mentioned above. In case of any discrepancies or disagreements among the investigators, two authors (Mengqi Y and Yuping L) were available to discuss and reach a consensus.

Eligibility Criteria

This study selected videos from Bilibili, TikTok, and YouTube, listed in the platforms' default combined order. The inclusion criteria for videos were as follows: 1) available in Chinese or English languages; 2) encompassing various types of acute pancreatitis-related content, such as scientific introductions, treatment methods, clinical diagnosis, prognosis, etiologies, and causations. Duplicate videos, advertisements, and irrelevant content were excluded. Ultimately, the first 100 videos on each platform that met the inclusion criteria were chosen for further analysis.

Grouping of Videos

In total, 300 videos were analyzed in this study, with each platform (TikTok, Bilibili, and YouTube) contributing 100 videos. The collected data included source (classified as health professionals, general users, science communicators, news agencies, nonprofit organizations, and for-profit organizations), upload platform, upload time, duration, views, likes, comments, and content (clinical diagnosis, prognosis, etiologies and causations, scientific introductions, and treatment methods) (Table S2). Due to the diversity of video providers, sources were categorized into two main groups: individual users and organizational users. Individual users included health professionals (doctors and nurses), general users, and users engaged in science communication, such as popular science writers. For television or news reports, a distinction was made between videos uploaded by official channels and those re-uploaded by private providers. Organizational users encompassed news agencies, nonprofit organizations, and for-profit organizations. Nonprofit organizations were defined as those focused on collective, public, or social benefit, including public hospitals, while for-profit organizations are those who pursue commercial gains. The videos were also subjected to assessment using the GQS, JAMA, and Modified DISCERN (Figure1).

Quality of Information

This study used two evaluation tools, Modified DISCERN and GQS (Table S1), to

assess the quality of information in the videos. JAMA score was employed to assess reliability. The GQS evaluated dimensions such as quality, flow, comprehensiveness, and usefulness for patients, with scores ranging from 1 (indicating poor quality) to 5 (indicating excellent flow and quality). Videos with a mean score of ≥ 4 were considered of good quality, <4 and ≥ 2 were of medium quality, and <2 were of low quality[12, 13]. The accuracy, utility, and reliability of each video source were evaluated based on the JAMA benchmark criteria, which include authorship, attribution, currency, and disclosure. In other words, the video content was evaluated based on the extent to which it 1) provided authorship information; 2) listed copyright information and references/sources; 3) included the initial date and subsequent updates; and 4) disclosed any potential conflicts of interest, funding, sponsorship, advertising support or video ownership. Each criterion was awarded 1 point, resulting in a total maximum score of 4 points. The higher the score, the more accurately, utility, and reliably the video fulfilled the criteria[14]. To further assess the quality and reliability of the videos, a modified version of the Modified DISCERN tool was used. It comprised five questions, with a score of 1 point given for each affirmative answer and 0 points for each negative response. The questions focused on clarity, reliability of information sources, balance, provision of additional sources, and addressing uncertainty or controversy. Items were scored on a 5-point scale ranging from 1 ("criterion is not met at all") to 5 ("criterion is fully met")[11, 15].

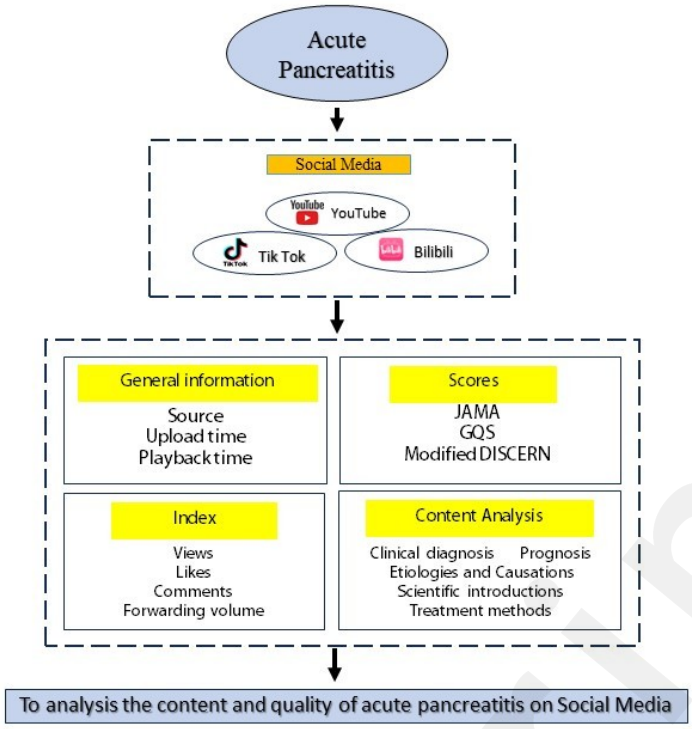

Figure1: The framework of the study.

Statistical analysis

Data analysis was performed using IBM SPSS Statistics 23. The Shapiro-Wilk test was used to assess the normality of the data. Quantitative data were presented as mean±standard deviation (mean ± SD) if they conformed to a normal distribution. Descriptive statistics, including mean, standard deviation, frequency, minimum, and maximum values, were calculated. The Kruskal-Wallis test, a nonparametric statistical test, was used to evaluate significant differences among three or more groups of independent variables. Pairwise comparisons were conducted using the Dunn-Bonferroni methodology if the Kruskal-Wallis results were significant. The correlation

between independent variables was examined using Spearman's test. Interrater agreement was evaluated using the kappa coefficient. The results were assessed with a 95% confidence interval and a significance level of $P<0.05$. Bonferroni adjustment was automatically conducted in SPSS by multiplying Dunn's P value by the number of comparisons.

Results

Overview of the video screening process

The search identified 1024 videos. Three independent investigators (YL, HW, HC) screened the videos for duplicates and checked for compliance with pre-defined eligibility criteria. After removing 250 duplicates, 255 advertisements, and 219 irrelevant videos, a set of 300 eligible videos were selected for further analysis (Figure2).

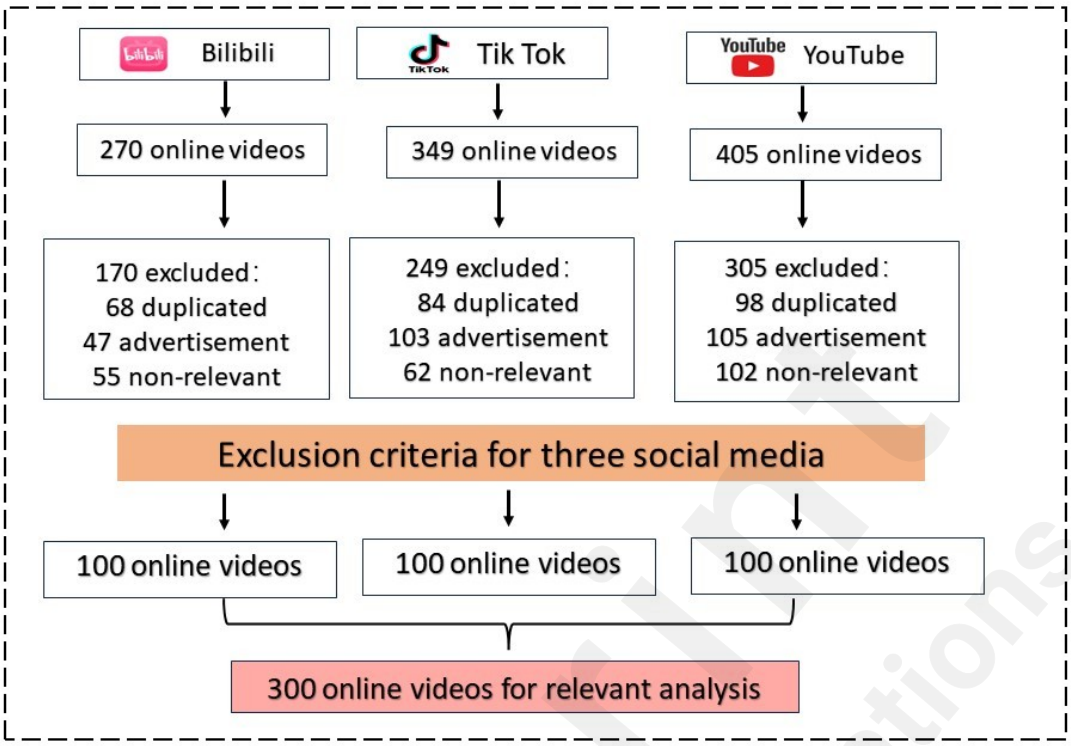

Figure2: A flowchart illustrating the filtering process for acute pancreatitis analysis.

General information and index of online videos

The selected online videos were uploaded between January 1st, 2011, and December 8th, 2023 (Figure3A). On the social networking platform Bilibili, the videos uploaded included 4% from 2018, 3% from 2019, 10% from 2020, 16% from 2021, 24% from 2022, and 43% from 2023. For the social media platform TikTok, 1% of the videos were uploaded in 2018, 7% in 2020, 10% in 2021, 19% in 2022, and 63% in 2023. The videos on YouTube were uploaded between 2011 and 2023, with 1% in 2011, 9% in 2013, 3% in 2014, 1% in 2015, 3% in 2016, 12% in 2017, 8% in 2018, 3% in 2019, 9% in 2020, 19% in 2021, 16% in 2022, and 16% in 2023. The duration of 100 acute pancreatitis-related videos on Bilibili was 92,542 seconds, while on TikTok it was

12,167 seconds, and on YouTube it was 73,970 seconds. A statistically significant difference (P <0.0001) was observed in the video duration between Bilibili and TikTok, as well as the watch time on YouTube (Figure3B). Furthermore, TikTok videos amassed more likes (Figure3C) and comments (Figure3D) compared to those on Bilibili and YouTube. The general information and index of online video in the three platforms is shown in Table 1.

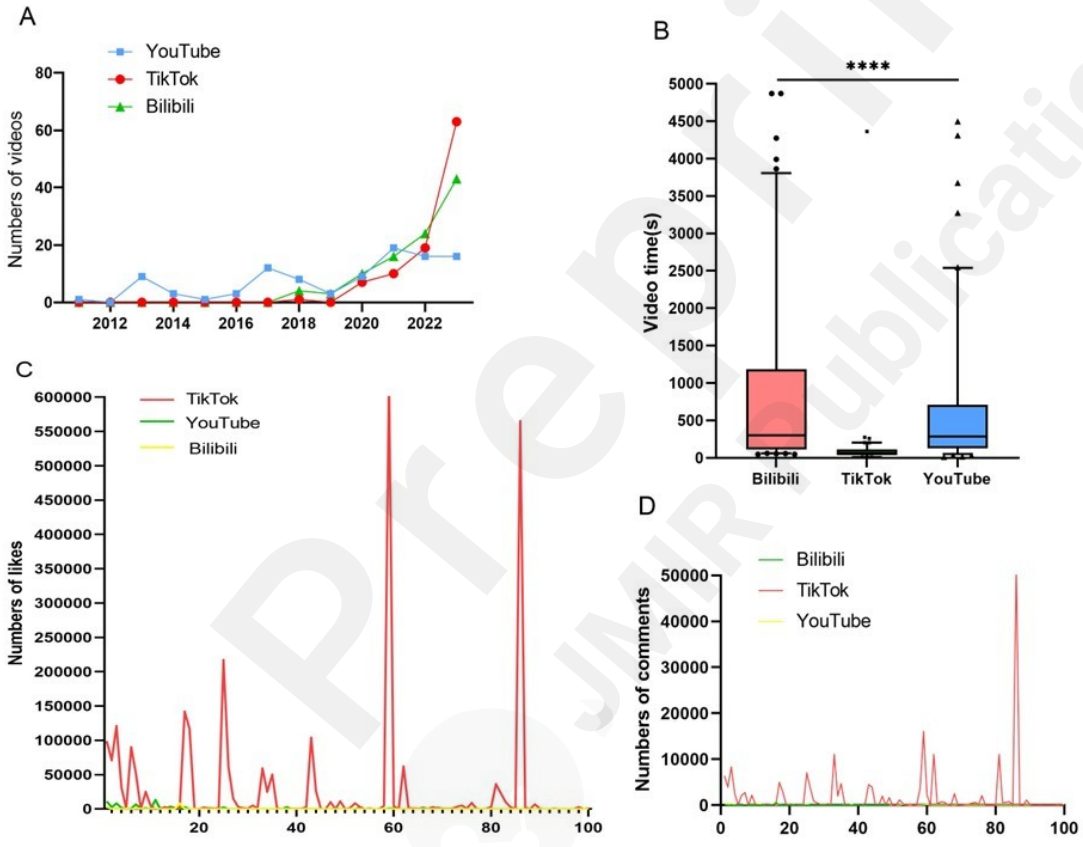

Figure3: Illustrates the general information on acute pancreatitis-related videos sourced from the three video-sharing platforms. Figure3A: a line chart showcasing 300 eligible acute pancreatitis-related videos released between 2011 and 2023 that met the inclusion criteria. Figure3B: the playback time of acute pancreatitis-related videos on the three video-sharing platforms, Figure3C: the number of likes for each platform, and Figure3D: the number of comments for each platform.

Table 1: Basic index and scores of videos about acute pancreatitis on three different

platforms from different time periods.

		Bilibili		TikTok		YouTube	
	Index	Mean±SD	(MIN, MAX)	Mean±SD	(MIN, MAX)	Mean±SD	(MIN, MAX)
2011-2015	Views	/	/	/	/	60814.25±157285.7	(1126, 440000)
	Number of likes	/	/	/	/	1324.06±6103.02	(13, 2689)
	Number of comments	/	/	/	/	92.02±556.68	(0, 278)
	Number of forwards	/	/	/	/	/	/
	Duration (s)	/	/	/	/	360.86±549.62	(15, 1739
2016-2019	Views	11960.08±51041.17	(481, 55000)	/	/	68234.42±173653.3	(1153, 1290000)
	Number of likes	219.25±978.65	(4, 815)	628000	(628000, 628000)	870.98±2087.36	(6, 13000)
	Number of comments	14.42±76.69	(0, 86)	16000	(16000, 16000)	41.08±86.55	(0, 482)
	Number of forwards	52.69±125.67	(5, 764)	3611	(3611, 3611)	/	/
	Duration (s)	718.57±1049.88	(62, 2605)	10	(10, 10)	684.42±774.89	(51, 3272)
2020-2023	Views	9247.19±41625.39	(33, 404000)	/	/	57520.46±153975.2	(66, 510000)
	Number of likes	187.88±830.15	(0, 7782)	27619.97±89244.61	(3, 565000)	1323.5±6163.24	(0, 8027)
	Number of comments	11.08±63.13	(0, 607	1914.35±5778.4	(0, 52000)	91.05±562.05	(0, 373)
	Number of forward	50.21±132.05	(0, 834)	8269.44±26329.46	(0, 176000)	/	/

	s					
	Duration (s)	816.47±1103.27	(46, 4870)	122.8±434.66	(8, 4363)	732.05±1003.71	(30, 4494)

Content analysis of online videos

The categorization of videos was performed by three independent investigators based on their original sources, resulting in the following categories: health professionals, science communications, general users, news agencies, nonprofit organizations, and for-profit organizations. Bilibili and TikTok had the highest number of videos released by health professionals, accounting for a total of 39% and 70%, respectively. Nonprofit organizations posted the largest number of YouTube videos, constituting 48% of the total (Figure4E).

Regarding the content types of the 300 videos analyzed, we identified five distinct categories: clinical diagnosis, prognosis, etiologies and causations, scientific introductions, and treatment methods. Clinical diagnosis accounted for 25% of the videos, prognosis for 5%, etiologies and causations for 6.7%, scientific introductions for 51%, and treatment methods for 12.3% (Figure4F). Notably, scientific introductions related to acute pancreatitis had the highest number of videos, while clinical diagnosis ranked second across all three platforms (Table 2).

Upon further analysis of the video sources, it was found that health professionals contributed the greatest number of science communications videos (n=74, 48.7%), followed by clinical diagnosis videos (n=40, 26.3%). Within the science communication category, scientific introductions were the most prevalent topic (n=20, 55.6%), followed by prognosis (n=7, 19.4%). In contrast, general users predominantly uploaded clinical diagnosis videos (n=11, 64.7%), while etiologies and causations, scientific introductions, and treatment methods accounted for the second-largest

number of videos (n=2, 11.8%). News agencies predominantly uploaded both clinical diagnosis and scientific introductions, constituting the largest number of videos (n=4, 40%). Nonprofit organizations posted videos in which scientific introductions were also the most common theme (n=53, 63.9%), followed by clinical diagnosis (n=15, 18.1%). Lastly, for-profit organizations focused solely on treatment methods in the videos they uploaded (n=2, 100%).

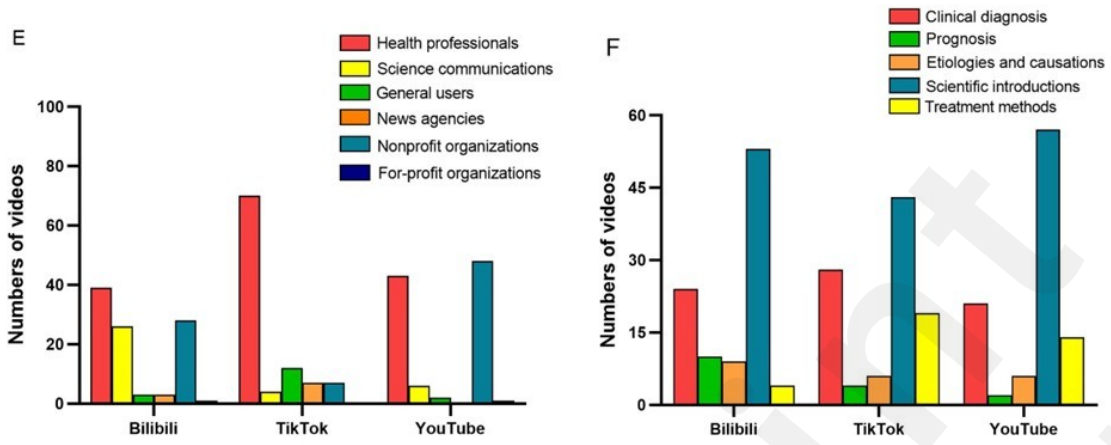

Figure4**E:** the bar chart illustrating the video sources for the three platforms. Figure4**F:** the bar chart shows the content types of the video on the three platforms.

Table 2: Descriptions of video source and content.

	Source	Content	Videos (n)
Individual users	Health professionals	Scientific introductions	74
		Treatment methods	23
		Clinical diagnosis	40
		Prognosis	5
		Etiologies and causations	30
	Science communications	Scientific introductions	20
		Treatment methods	2
		Clinical diagnosis	3
		Prognosis	7
		Etiologies and causations	4
	General users	Scientific introductions	2
		Treatment methods	2
		Clinical diagnosis	11
		Prognosis	0
		Etiologies and causations	2

Organizational users	News agencies	Scientific introductions	4
		Treatment methods	0
		Clinical diagnosis	4
		Prognosis	1
		Etiologies and causations	1
	Nonprofit organizations	Scientific introductions	53
		Treatment methods	8
		Clinical diagnosis	15
		Prognosis	3
		Etiologies and causations	4
	For-profit organizations	Scientific introductions	0
		Treatment methods	2
		Clinical diagnosis	0
		Prognosis	0
		Etiologies and causations	0

Quality analysis of online videos

An overall Journal of American Medical Association (JAMA) score of 2.22 (1,4) indicated poor reliability. The main reasons for score deductions were the absence of video attribution information and disclosure of the provider. Only fourteen videos received full points from both raters in relation to these items. Upon cross-platform analysis, the overall GQS for the included videos was 2.67 (1,5), indicating mediocre quality. The compiled videos in the study also received a mediocre Modified DISCERN score of 2.63 (1,5) (Figure5G). Statistical analyses indicated no statistically significant difference in GQS scores among the videos, but Bilibili and YouTube tended to have higher JAMA and Modified DISCERN scores compared to TikTok. These observed differences were statistically significant ($P<0.0001$, $P<0.0001$, respectively) (Figure5H). A strong correlation was found between the two quality tools Modified DISCERN and GQS. The detailed scoring allocations across the three scoring criteria are summarized in Table 3.

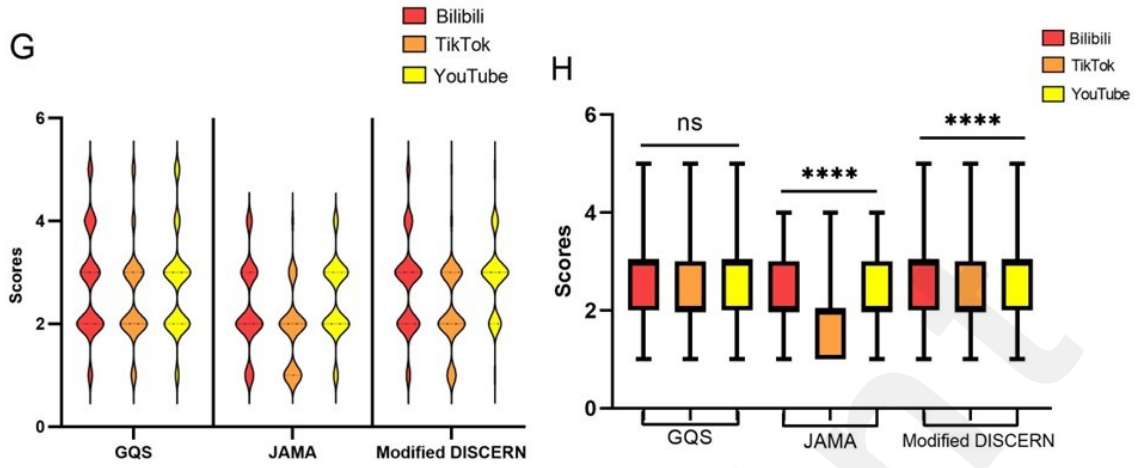

Figure5**G:** the violin graph presents the scores of GQS, JAMA, and Modified DISCERN on three social platforms. Figure5**H:** the box graph compares the GQS, JAMA, and Modified DISCERN scores on three social platforms.

Table 3: Comparison of source, content and scores of videos about acute pancreatitis on three different platforms.

	Total	Bilibili	TikTok	YouTube	
Number	300	100	100	100	*P* value
Source	N (%)	N (%)	N (%)	N (%)	<0.05
Health professionals	152 (50.67%)	39 (39%)	70 (90%)	43 (21%)	
Science communications	36 (12%)	26 (26%)	4 (4%)	6 (6%)	
General users	17 (5.67%)	3 (3%)	12 (12%)	2 (2%)	
News agencies	10 (3.33%)	3 (3%)	7 (7%)	0 (0%)	
Nonprofit organizations	83 (27.67%)	28 (28%)	7 (7%)	48 (48%)	
For-profit organizations	2 (0.67%)	1 (1%)	0	1 (1%)	
Content	N (%)	N (%)	N (%)	N (%)	<0.001
Clinical diagnosis	75 (25%)	24 (24%)	28 (28%)	21 (21%)	
Prognosis	15 (5%)	10 (1%)	4 (1%)	2 (10%)	
Etiologies and causations	20 (6.67%)	9 (9%)	6 (6%)	6 (6%)	
Scientific introductions	153 (51%)	53 (53%)	43 (43%)	57 (57%)	
Treatment methods	37 (12.33%)	4 (4%)	19 (19%)	14 (14%)	
GQS	2.67 (1,5)	2.76 (1,5)	2.52 (1,5)	2.73 (1,5)	0.15
1 score	19 (6.33%)	6 (6%)	8 (8%)	5 (5%)	

2 score	127 (42.33%)	41 (41%)	47 (47%)	39 (39%)	
3 score	106 (35.33%)	30 (30%)	35 (35%)	41 (41%)	
4 score	30 (10%)	17 (17%)	5 (5%)	8 (8%)	
5 score	18 (6%)	6 (6%)	5 (5%)	7 (7%)	
JAMA	2.22 (1,4)	2.32 (1,4)	18.6 (1,4)	2.48 (1,4)	<0.0001
1 score	55 (18.33%)	15 (15%)	33 (33%)	7 (7%)	
2 score	142 (47.33%)	47 (47%)	50 (50%)	45 (45%)	
3 score	85 (28.33%)	29 (29%)	15 (15%)	41 (41%)	
4 score	18 (6%)	9 (9%)	2 (2%)	7 (7%)	
Modified DISCERN	2.63 (1,5)	2.74 (1,5)	2.28 (1,5)	2.87 (1,5)	<0.0001
1 score	23 (7.67%)	6 (6%)	15 (19%)	2 (2%)	
2 score	107 (35.67%)	35 (35%)	46 (46%)	26 (26%)	
3 score	135 (45%)	42 (42%)	36 (36%)	57 (57%)	
4 score	28 (9.33%)	13 (13%)	2 (2%)	13 (13%)	
5 score	7 (2.33%)	4 (4%)	1 (1%)	2 (2%)	

Discussion

Acute pancreatitis is the most prevalent non-malignant GI tract disease requiring hospitalization, which affects various demographic groups including children, pregnant women, and the elderly[16]. Scientific introductory videos from three platforms emphasize that acute pancreatitis encompasses moderately severe cases characterized by fluid and/or necrotic collections and severe cases involving systemic inflammatory response syndrome-associated extrapancreatic organ failure, and even death[17, 18]. Healthcare professionals stress the importance of early treatment to avoid irreversible consequences in later stages[19]. Given the potential devastating impact of acute pancreatitis, proactive management is essential to prevent or reduce the risk of recurrence and progression to chronic pancreatitis[20]. Therefore, it is crucial to assist patients in developing a healthy lifestyle and eliminating factors that contribute to disease recurrence. Additionally, leveraging social media can increase public awareness and attention towards this disease within local communities.

An analysis of three different social media platforms revealed that out of 300 videos, 20 (6.7%) discussed the etiologies and causations of acute pancreatitis. The predominant causes mentioned were gallstones and alcohol consumption, while hypertriglyceridemia and drug use were also noted. Promoting health requires a focus on prevention, and enhancing the dissemination of scientific knowledge is key to achieving this goal[21, 22]. These informative videos also emphasized that acute pancreatitis can be effectively prevented by avoiding overeating, excessive alcohol consumption, and by actively and properly treating biliary diseases such as gallstones.

The videos highlighted the relationship between acute pancreatitis and cholelithiasis, alcohol, and overeating, with less emphasis on hyperlipidemia. Some reports highlight that with the improvement of people's living standards and the change of dietary structure in China, hypertriglyceridemic pancreatitis (HTGP) is increasing, and there is a trend of surpassing alcoholic acute pancreatitis to become the second most common cause, which needs to be paid attention[23, 24]. It is important to note that the corresponding health knowledge videos are not regularly updated, indicating the need for improvement in this area. Despite this, considering the high incidence and mortality rates associated with acute pancreatitis, leveraging social media to disseminate knowledge about the disease is crucial. Such efforts can help raise awareness and attention towards the disease within local communities.

As the second most video content for diagnosis of acute pancreatitis is made when at least two out of the following three criteria are met: typical abdominal pain, amylase/lipase levels ≥ 3 times the upper limit of normal, and cross-sectional imaging findings[4]. Health professionals typically introduce transabdominal ultrasound and chest imaging knowledge of pancreatitis, as well as conduct tests for serum triglycerides, full blood count, renal and liver function, glucose, and calcium levels. If diagnostic uncertainty persists, abdominal cross-sectional imaging is conducted to detect complications. Subsequent imaging helps in monitoring the progression of the condition. These videos play a significant role in raising public awareness and promoting prompt medical intervention, such as fasting, when symptoms and warning signs of acute pancreatitis are detected. Failure to seek medical attention can lead to

progression to severe sepsis or shock. Therefore, there is an ongoing need to prioritize user education and knowledge dissemination to enhance global scientific literacy and awareness of acute pancreatitis.

Based on the findings of this study, social media platforms such as Bilibili, TikTok, and YouTube play a significant role in disseminating crucial information about acute pancreatitis. This information includes clinical diagnosis, prognosis, treatment methods, etiologies, causations, and scientific advancements. In China, acute pancreatitis knowledge is effectively conveyed through narrative storytelling combined with imaging and laboratory tests like amylase to explain the development of the condition. Among the popular science videos, those that gained the most attention were ones that used real-life examples, such as a famous internet celebrity dying from acute pancreatitis, to raise public awareness. On YouTube, Comparatively, popular science videos mainly consisted of professional lectures with little creativity, utilizing interviews and presentations to share knowledge[25-27]. Interestingly, studies have shown that TikTok surpasses major social media platforms like Facebook and Instagram, as well as longer-video platforms like YouTube, in terms of time spent per user, which is an important metric for user engagement[10]. Our findings also revealed that TikTok videos on acute pancreatitis garnered the most attention and dissemination.

In terms of sources, healthcare professionals predominantly uploaded videos on Bilibili and TikTok, whereas nonprofit organizations were responsible for the majority of video publishing on YouTube. Notably, no videos uploaded by for-profit

organizations were found on TikTok, presumably due to restrictions on product marketing[10]. At the time of our search, these videos had been viewed over 1,290,000 times, indicating a substantial reach on these popular online platforms and generating widespread societal concern for health and well-being.

Strikingly, technical glitches aside, when it comes to medical information, the social media also faces challenges concerning information credibility and authenticity[28, 29]. The quality of information presented in the videos was evaluated using the Modified DISCERN and GQS. The reliability of the videos was assessed using JAMA score, resulting in moderate scores. None of the videos fully met the evaluation criteria, indicating suboptimal overall quality in online videos related to acute pancreatitis. Most videos showed deficiencies in providing information about sources, completeness, and references. Bilibili and YouTube were found to have higher-quality videos on acute pancreatitis compared to TikTok in this study. Nonetheless, TikTok had the highest transmissibility among social media platforms, particularly for its use of everyday language[30]. It is worth noting that while an attractively produced video may generate interest, it should also meet quality standards as health information. Interestingly, high-quality videos often receive relatively fewer views, comments, and likes due to the difficulty the public faces in discerning accurate information in today's complex social media landscape. Although we should ideally be in an era of “verify, then trust”, we often find that the public still tends to “trust, then verify”[31]. It can't help but be thought-provoking to consider that some video providers may exploit the functions of social media to exaggerate facts, leading to the spread of false

information and misinformation among the public, who struggle to differentiate between authentic and misleading content[32, 33].

To address these concerns, efforts should be made to enhance the content and quality of acute pancreatitis videos and disseminate reliable information about diagnosis, treatment, and prevention of the disease more effectively to the public. Key users on these platforms should focus on improving and ensuring the content and quality of the videos[34]. This may involve refining personal information and providing well-referenced health knowledge literature in the videos, as well as avoiding following trends and clichés. For controversial issues, a rigorous and accurate approach should be taken, while also considering whether the format of the video aligns with the preferences of the public[35]. Regulatory authorities should increase efforts to combat the misappropriation and falsification of health-related information on social media platforms. They should proactively protect intellectual property rights and enforce strict supervision over the dissemination of health knowledge. Additionally, the public and individuals should strengthen their ability to identify the authenticity of health information[36, 37]. Individuals with higher levels of news media literacy are likely to be more capable of critical thinking and feeling personally in control, as well as more knowledgeable about the news media in general, compared to those with lower levels[38]. If the authenticity of a video cannot be verified, seeking guidance from reliable sources and consulting with professionals is crucial for preventing or treating acute pancreatitis.

Limitations

It should be acknowledged that the videos evaluated had different formats. Videos over an hour in length can of course accommodate more information than explanatory short ones. Furthermore, the selection of videos was restricted to the English and Chinese languages, overlooking the potential presence of informative acute pancreatitis videos in other languages, such as Korean and Japanese. In addition, such as the term “pancreatic abscess”, is not recommended for current local complications. Videos that still contained correct information at the time they were created may now be outdated. Therefore, the comparability between the videos is limited.

Conclusions

In conclusion, social media platforms play a crucial role in disseminating fundamental knowledge regarding acute pancreatitis. This study provides reliable and valuable information to the public, enabling them to gain a better understanding of the current status of online videos related to acute pancreatitis on social media platforms. The findings of this study could facilitate shared decision-making and prove beneficial for both patients and healthcare providers. By recommending appropriate videos to patients, healthcare providers can enhance participation rates in acute pancreatitis treatment. Nonetheless, the identified acute pancreatitis videos in this study exhibited mediocre quality. Therefore, there is an urgent need for improved freely available informational videos on acute pancreatitis, particularly focusing on enhancing reliability criteria.

Declarations

Availability of data and materials

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

Competing interests

These authors declare no competing interests.

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Authors' contributions

Chuan Xie: Conceptualization, Methodology, Funding acquisition. Mengqi Ying, Yuping Lai, and Menghui Wang: Writing-Original draft preparation and reviewing. Chengbo He and Yin Li: Figure design. Wenjie Fu: Visualization and Investigation. Huan Wang, YaoBin Ouyang: Software and Supervision. All the authors have read and approved the final version of the manuscript, and agree with the order of presentation of the authors.

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Supplementary information

Supplementary materials are available in Table S1 and Table S2.

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

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Supplementary Files

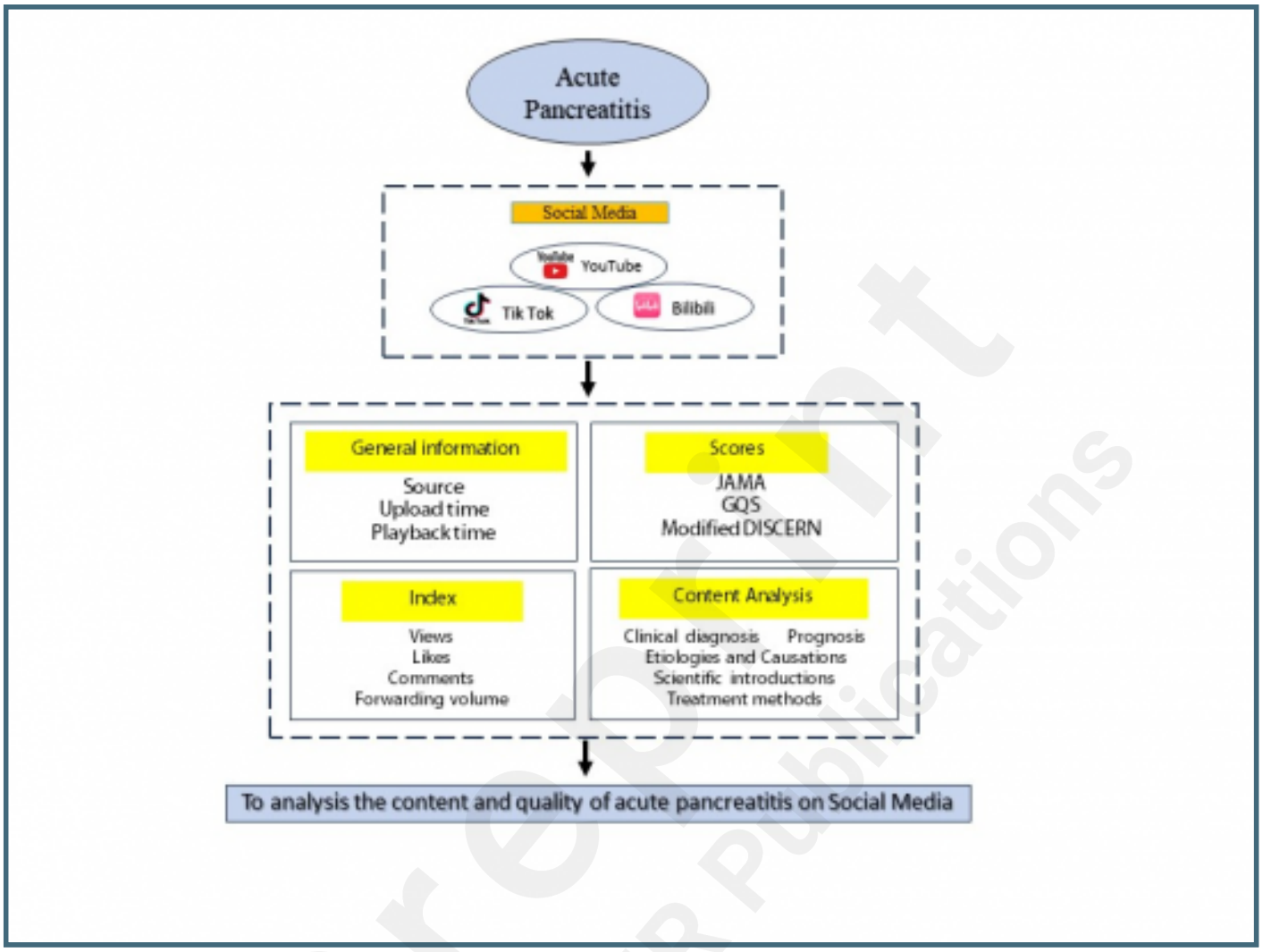
Assessment tools for quality and reliability.
URL: http://asset.jmir.pub/assets/ebee1773e2a2dec57ffb5fa36ad3b4e1.docx

cover letter.
URL: http://asset.jmir.pub/assets/1d316f2b498a3ebf97877da5531e2035.docx

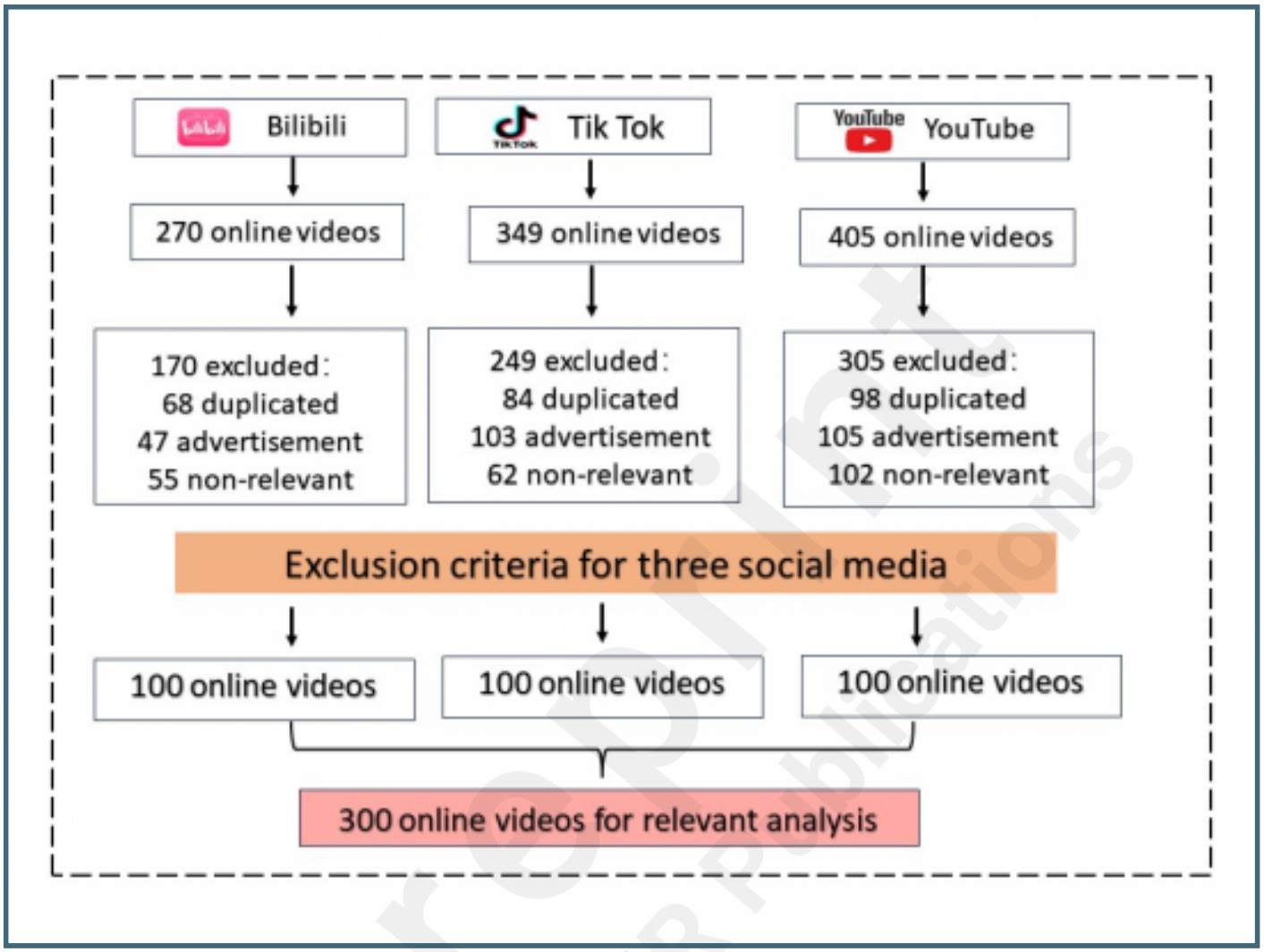
Untitled.
URL: http://asset.jmir.pub/assets/52edef4944a4440d1be1f09b1c592633.xlsx

Figures

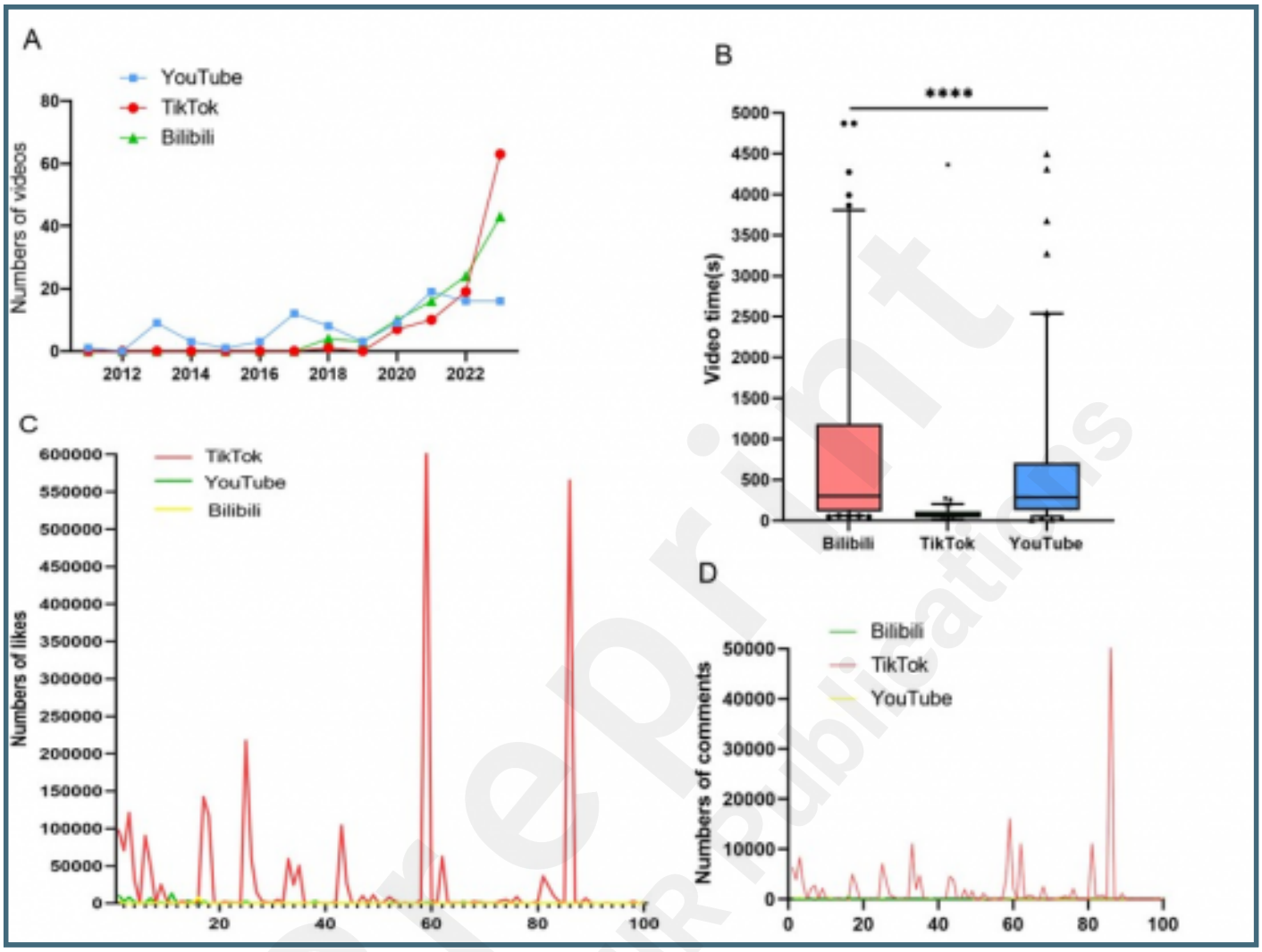
The framework of the study.



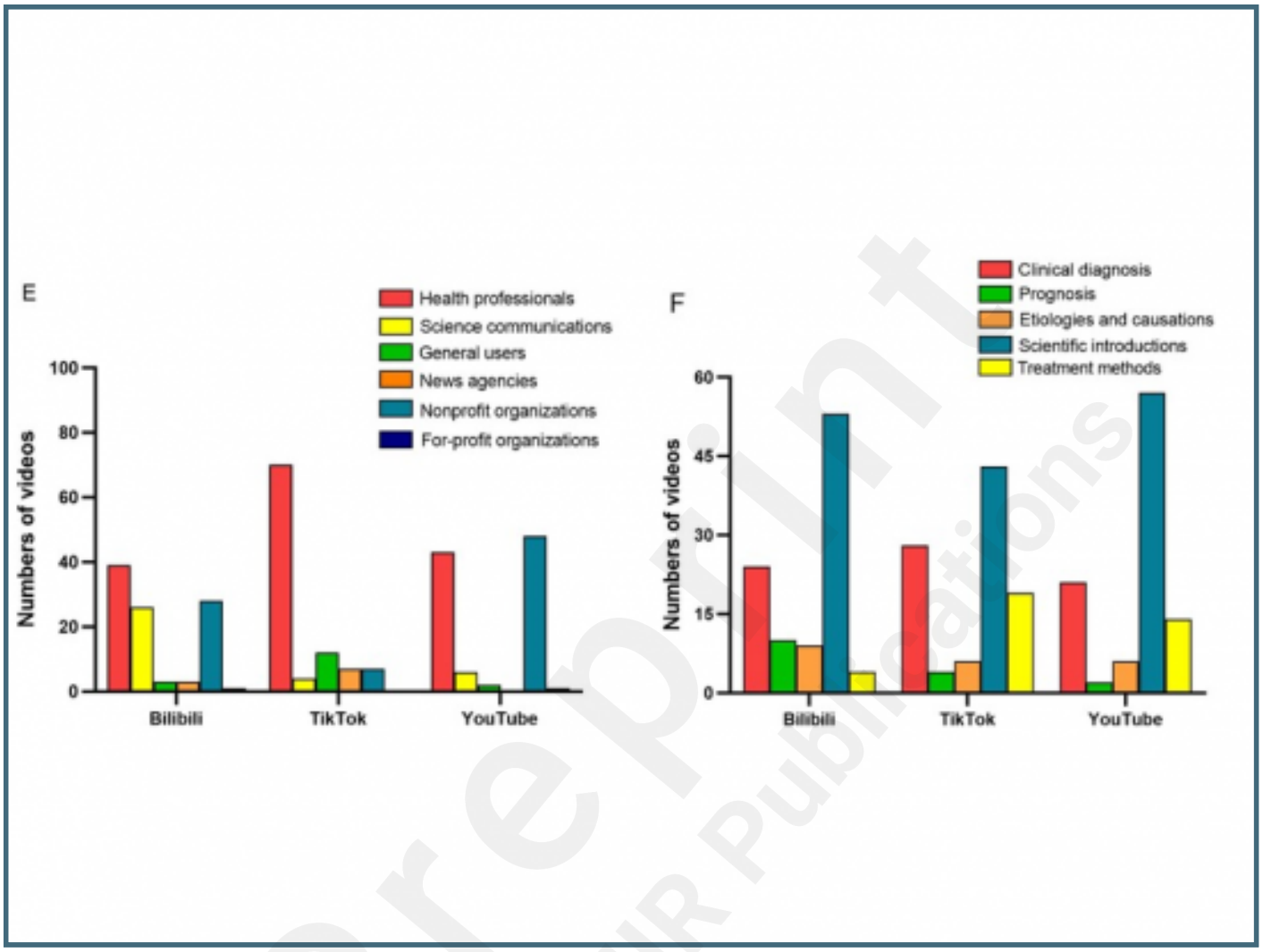
A flowchart illustrating the filtering process for acute pancreatitis analysis.



Illustrates the general information on acute pancreatitis-related videos sourced from the three video-sharing platforms.



The bar chart illustrating the video sources for the three platforms and the bar chart shows the content types of the video on the three platforms.



G: the violin graph presents the scores of GQS, JAMA, and Modified DISCERN on three social platforms. Figure5H: the box graph compares the GQS, JAMA, and Modified DISCERN scores on three social platforms.