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RECEIVED 23 May 2025

ACCEPTED 25 August 2025

PUBLISHED 08 September 2025

CITATION

Julihati K and Liu Z (2025) Cancer diaries: a study of communication characteristics in cancer patients' illness narratives on Chinese TikTok.
Front. Commun. 10:1634011.
doi: 10.3389/fcomm.2025.1634011

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Cancer diaries: a study of communication characteristics in cancer patients' illness narratives on Chinese TikTok

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Short-video platforms like Douyin (Chinese TikTok) have not only become a primary channel for people to access health information but have also evolved into an important medium for cancer patients to express their illness experiences. This study employs illness narrative theory and narrative identity theory to conduct both quantitative and qualitative analyses of 553 cancer narrative videos on the Douyin platform, aiming to explore the typological characteristics, identity construction strategies, and communication effects of cancer patients' illness narratives. The findings reveal important patterns regarding cancer illness narrative characteristics and user engagement on Douyin. While narrative types characterized by actively fighting cancer dominate in video quantity, narratives focusing on daily life demonstrate superior user engagement. Two identity construction strategies prove effective: patient identities based on medical evidence and family member identities grounded in kinship relations. The analysis also shows that women and urban residents constitute the primary creators of cancer narratives on the platform. Additionally, we found that cancer narratives on the platform exhibit significant commercial characteristics, with some patients using narratives to gain economic support. These findings reveal the unique cultural characteristics of cancer illness narratives on short-video platforms, providing an empirical foundation for understanding health communication in digital environments, while offering insights for patients, medical institutions, and platforms to optimize health communication strategies.

KEYWORDS

cancer illness narratives, TikTok, social media, narrative identity, communication effects

1 Introduction

Social media has become an essential platform for internet users to engage in public discussions, emotional exchanges, and relationship building, serving as a primary means of modern information acquisition, dissemination, and social interaction (Azzaakiyyah, 2023). Against this backdrop, digital storytelling as a multimedia narrative approach is gradually becoming an effective tool for patients to share their medical experiences (Park et al., 2021). The "Douyin" platform was launched in 2016 and introduced internationally as TikTok in 2017. According to official Douyin data, as of September 2024, Douyin's daily active users exceeded 600 million. Short-video platforms like Douyin have not only become core channels for the public to access health-related information (Yang et al., 2025) but have also emerged as important tools for patients' self-presentation (Zhang and Hou, 2022).

2 Literature review

2.1 Theoretical framework of illness narratives

Illness narratives, as important means for patients to express their disease experiences, occupy a significant position in social science research. [Gonzalez-Polledo and Tarr \(2016\)](#) pointed out that illness narratives are key communicative forms for understanding the complexity of disease. These narratives not only shape the disease experience but also connect specific modes of disease expression with subjectivity and identity in cultural contexts.

[Frank \(1994\)](#) categorized illness narratives into three types: restitution narratives, chaos narratives, and quest narratives. Among these, chaos narratives often exist at the margins of language, representing disease experiences that cannot be adequately expressed verbally. [Brown and Addington-Hall \(2008\)](#) proposed a more detailed four-part classification: sustaining narratives, enduring narratives, preserving narratives, and fractured narratives. This classification framework does not represent patients' personalities or disease stages but rather "identifiable narrative cues" with clearer boundaries, making it more suitable for short video content analysis. Importantly, [Brown and Addington-Hall's \(2008\)](#) classification unbinds narrative types from disease progression stages, focusing instead on cognitive differences among patients. They argue that patients construct narrative meaning by selectively organizing disease events, with the narrative type reflecting individual cognitive differences in disease control rather than the disease stage itself.

2.2 Diverse practices of illness narratives on social media

With the development of social media, research on illness narratives has shown diverse directions. [Talbot et al. \(2021\)](#) found that young dementia patients use Twitter to express themselves and reestablish identity, resisting identity loss through community membership and regaining a sense of purpose. [Yeo \(2021\)](#) proposed the concept of "tyranny of happiness" to explain young people's mental distress experiences, emphasizing how "language of suffering" on Facebook is used to resist blame attribution and request social understanding.

In the Chinese social media environment, [Zou et al. \(2021\)](#) analyzed content from health opinion leaders on Weibo, finding that they adopt low fear appeals and high-efficacy information when disseminating health information, and widely use narrative evidence. [Chen J. \(2022\)](#) and [Chen Y. \(2022\)](#) analyzed cancer patient texts on the Zhihu platform and found that their narrative framework does not completely present the independent distribution of Frank's restitution, chaos, and quest narratives, but rather an intertwined state. These studies all indicate that social media provides diverse spaces for patients' illness narratives, but relevant research has mainly focused on text platforms, with relatively limited research on short video platforms.

2.3 Media characteristics and narrative construction of short video platforms

Short video platforms provide unique multimodal expression possibilities that transcend the limitations of traditional text

narratives. [Hodkinson \(2017\)](#) pointed out that with the innovation and widespread use of mobile multimedia elements, the connection between users and platforms has become a norm in daily life, providing an "always-on" expression space for illness narratives. [Gonzalez-Polledo and Tarr \(2016\)](#) argued that while language remains the most powerful mode of signification and representation, non-verbal forms of communication such as sound, gesture, and facial expressions add pragmatic and cognitive dimensions to the narrativity of stories, and this multimodal expression has unique advantages compared to text.

In research on health communication on long video platforms, existing studies have laid the foundation for understanding the visual expression of illness narratives. [Chou et al. \(2011\)](#) analyzed 35 YouTube cancer survivor narrative videos and found that these narratives have characteristics such as dramatic tension and emotional engagement. [Hale et al. \(2018\)](#) further studied the predictors of social support in YouTube cancer video blogs and found that narrative features that position patients as protagonists can gain more empathetic support. [Sinha and Sharma \(2024\)](#) analyzed the most-watched Hindi breast cancer videos on YouTube and found that videos uploaded by professionals were significantly superior to ordinary users in terms of quality and reliability, but users often could not effectively distinguish the accuracy of professional and non-professional content.

The rise of short video platforms has brought new possibilities for health communication. [Zhang and Huang \(2021\)](#) studied autism-themed videos on the short video platform "Kuaishou" and found that short video platforms provide equal ground for the dissemination of health topics, offering social "visibility" and autonomous voice possibilities for vulnerable groups. In the short video platform environment, [Kanchan and Gaidhane \(2023\)](#) found that platforms like TikTok may further strengthen the emotional mobilization effects of narratives through visual symbols and immediate interaction functions. These characteristics make short video platforms ideal carriers for illness narratives.

However, the unique technical characteristics of short video platforms still require specialized research. Compared with long video platforms such as YouTube, short video platforms represented by Douyin and TikTok have significant features such as algorithmic recommendations, duration restrictions, and high-frequency interactions. How these technical characteristics affect the expression and communication effects of cancer narratives, especially in the Chinese cultural context, still lacks in-depth discussion.

2.4 Narrative identity and cultural scripts

Narrative identity is a social role constructed by patients through narratives, showing unique characteristics in different cultural backgrounds. In the Chinese social context, [Zhao and Mao's \(2023\)](#) research showed that online help-seekers gain support by constructing three main identities: family member identity, patient identity, and vulnerable group member identity. These identity construction strategies are deeply influenced by Chinese traditional culture, especially the Confucian values of "benevolence" and "trustworthiness."

Family member identity is constructed by displaying kinship relationships and family bonds, emphasizing family responsibility and

ethics. This construction aligns with the “acquaintance society” characteristic described by Fei (1992), which involves role conversion that allows potential supporters to project themselves in similar situations, thereby evoking care and sympathy. Patient identity is constructed based on medical evidence and professional terminology, relying on medical institution discourse systems, and enhancing narrative credibility through objective descriptions of conditions. Vulnerable group identity is mainly constructed through emotion-oriented strategies, emphasizing economic and social disadvantaged status, aimed at evoking audience sympathy and willingness to help.

Zhang and Hou (2022) focused on the phenomenon of cancer patients using illness narratives for self-healing on the Douyin platform, but their research did not address the characteristics of the narrating population, nor did it explore the relationship between different narrative types and narrative identities with platform interaction mechanisms. The existence of these research gaps provides important directions for further in-depth study of cancer illness narratives on the Douyin platform.

2.5 Research gaps

In summary, existing research demonstrates two principal limitations: First, while scholarship on video platform health communication has achieved substantial accumulation, there remains insufficient inquiry into how narrative strategies influence cancer content transmission mechanisms under the distinctive technical affordances of short video platforms—specifically algorithmic curation, temporal constraints, and high-frequency user engagement features.

Second, research examining cancer narrative identity construction and its social implications within Chinese cultural contexts remains limited. Western narrative identity theoretical frameworks (e.g., Smith and Sparkes, 2004) inadequately explain identity practices within Chinese contexts, particularly the phenomenon of “familial ethical performance” (Zhao and Mao, 2023) and trust construction predicated upon relational networks (Chua and Wellman, 2016), which exhibit pronounced cultural specificity.

Building upon these identified research lacunae and integrating narrative paradigm theory, this investigation focuses on illness narratives of cancer patients and their families on the Douyin platform. Through systematic analysis of “anti-cancer diary” videos, this study addresses the following research questions:

RQ1: What demographic characteristics are manifested in “anti-cancer diary” videos on the Douyin platform?

RQ2: What distributional patterns of narrative typologies and identity construction strategies characterize cancer illness narratives on the Douyin platform?

RQ3: Which factors influence the communicative efficacy of cancer illness narratives on the Douyin platform?

3 Research methods

This study employs a mixed research method combining quantitative content analysis and qualitative walkthrough method.

Quantitative content analysis is a systematic method to study information characteristics through recognized meanings (Neuendorf and Kumar, 2015). The qualitative walkthrough method, as a digital anthropology research method, requires researchers to deeply experience the research object as ordinary users to gain an in-depth understanding of platform culture and social significance (Light et al., 2018). This mixed method enables us to better understand the characteristics and social effects of cancer narratives on the Douyin platform.

3.1 Implementation of the qualitative walkthrough method

In practice, researchers first created a Douyin account specifically for research, avoiding personal usage traces that might interfere with algorithmic recommendations. From August to October 2024, researchers immersed themselves in the Douyin platform for about an hour each day, gradually integrating into the content ecosystem of cancer narratives, systematically observing and recording how cancer narratives were presented. Recorded content included: analysis of high-interaction video cases and typical comment content in the comment sections. In the subsequent citation phase, to protect the privacy of research subjects, researchers used pseudonyms to replace creators’ actual online names and appropriately obscured specific details that might lead to identity recognition while preserving the core analytical value of the cases. This non-participatory qualitative observation allowed us to capture the natural ecology of cancer narratives on the platform, providing rich contextual understanding and explanatory frameworks for subsequent quantitative analysis.

3.2 Data sources and collection

To clarify the platform context for international readers, it is necessary to distinguish between Douyin and TikTok. Douyin represents the Chinese domestic version of the short video platform TikTok. Although both platforms are owned by the Chinese technology company ByteDance, they operate within distinct markets and regulatory environments (Kaye et al., 2021). Given this study’s focus on cancer narratives by Chinese patients on social media platforms, Douyin was selected as the research platform.

During the hashtag selection process, the research team conducted systematic investigation of cancer-related tags on the Douyin platform. Under the highest-traffic “#cancer” hashtag, video content predominantly comprised health education materials and cancer-related news published by official or pharmaceutical media outlets, rather than patients’ personal narratives. Considering this study’s objective to analyze illness narratives by cancer patients and their families, the research selected “# Anti-cancer diary” as the data source—one of the highest-traffic cancer-related hashtags on the Douyin platform.

The “# anti-cancer diary” hashtag primarily features personal narratives autonomously published by cancer patients, aligning more closely with research objectives. Since its launch in March 2021, this hashtag has accumulated 44,000 participant interactions and 3.24 billion views, demonstrating sufficient sample size and substantial social attention. Comparative analysis with other related hashtags

revealed that tags such as “liver cancer” and “advanced cancer” were overly specific and could not represent the overall narrative characteristics of the cancer population. Tags like “conquering illness,” while containing cancer narrative content, also incorporated narratives from other diseases, lacking specificity. Notably, the absence of a more neutral “# cancer diary” hashtag on the Douyin platform reflects, to some extent, the cultural preference for “positive energy” expression within Chinese social media environments.

Preliminary observation revealed that despite the semantic inclination toward “anti-cancer” in the “# Anti-cancer diary” hashtag, actual content encompassed diversified themes including treatment records, daily life, and emotional expression, providing a foundation for analyzing different narrative types. It must be acknowledged that the semantic characteristics of the hashtag may exert certain influence on user participation choices and content expression modalities, constituting a potential limitation of this data source selection.

This study employed comprehensive sampling methodology, collecting all video content under the “# Anti-cancer diary” hashtag from the initial publication date (March 3, 2021) to the data collection date (November 13, 2024), yielding 732 video links. To verify data stability, researchers re-examined the hashtag’s video content 3 months post-data collection (January 13, 2025), confirming no significant distributional changes.

3.3 Data cleaning

The researchers classified the initial 732 videos by account type, revealing that personal accounts constituted the majority (97.3%, $n = 712$), while institutional accounts comprised a minimal proportion (2.7%, $n = 20$). To ensure that the analyzed video content represented narratives by cancer patients and their families, data cleaning was conducted on personal account videos, establishing the following advertising identification criteria.

Repetitive characteristics: Accounts publishing ≥ 3 videos with highly similar content (visual repetition rate $> 80\%$). Regarding the 80% visual repetition rate determination standard: Based on [Rose \(2022\)](#) visual methodology framework, researchers employed manual comparison methods, conducting similarity assessments through frame-by-frame comparison of key video segments (opening 3 s, middle 3 s, closing 3 s). The specific operational procedure comprised: (1) extracting 9 static images from suspected repetitive videos; (2) having two researchers independently compare image content, including scenes, character positioning, clothing, and background visual elements; (3) determining repetitive content when both evaluators consistently identified at least 7 images (approximately 78%) as highly similar across the aforementioned elements. Although this method relied on manual judgment, dual verification ensured judgment consistency (95% agreement). Future research should consider employing computer vision technology to enhance efficiency and objectivity.

Textual characteristics: Content containing apparent advertising keywords such as “miracle drugs/ancestral remedies.” During the cleaning process, a typical case account was identified: “User X” consecutively published 12 identical chemotherapy scene videos without showing their face, with accompanying text “Daily herbal medicine eliminates tumors” and their WeChat contact information.

It must be acknowledged that this study excluded 49 videos that became unavailable for continued viewing during subsequent coding due to platform removal, potentially affecting the representativeness of research findings. Removed videos included content violating platform community guidelines, such as false medical information and extreme emotional expressions, as well as videos removed by users themselves or their relatives, with removal reasons including patient death or patients no longer wishing to engage in platform narratives. Such exclusion may bias our sample toward more platform-compliant “moderate” narratives, potentially underestimating controversial or marginalized expressions within cancer illness narratives. This limitation reminds us to consider the shaping influence of platform moderation mechanisms on narrative ecosystems when interpreting results.

Following data cleaning, 553 valid samples were obtained, constituting the dataset for subsequent analysis.

3.4 Coding process

This study employed content analysis methodology for systematic data coding. Content analysis represents an empirical systematic method for analyzing audio, textual, and visual data ([Krippendorff, 2004](#)). This process encompasses the analysis of content variables through analytical units and codebooks. Analytical units constitute measurable content, while codebooks represent collections of observable codes ([Bock et al., 2011](#)). During the coding process, coders comprehensively considered multimodal information from videos, including textual (titles, captions, subtitles), visual (visual content, facial expressions, scene settings), and auditory (tone, emotional expression intensity) elements to determine narrative types and identity construction strategies, ensuring comprehensive understanding of short video content.

The researchers assembled a coding team comprising the first author and two coders, collectively executing three-stage work including preliminary indexing, coding framework refinement, and systematic coding. Given that the Douyin platform does not provide commercial application programming interfaces for research purposes, the team manually collected video links, like counts, comment counts, and publication timestamps. During the pre-coding phase, we constructed a coding framework specifically targeting cancer digital narratives based on relevant literature and platform characteristics. Through multiple rounds of discussion and trial coding, we finalized a codebook containing 13 primary variables covering four core dimensions: work characteristics, creator attributes, patient information, and narrative structure. The complete codebook is provided in the appendix.

Prior to formal coding commencement, the research team conducted systematic training for two coders. The training process comprised three stages: theoretical learning, coding rule explanation, and example practice. Coders first studied [Brown and Addington-Hall’s \(2008\)](#) four-fold illness narrative theory and [Zhao and Mao’s \(2023\)](#) narrative identity theoretical framework, subsequently learning detailed operational definitions and judgment criteria for the 13 primary variables, and finally conducting coding practice using 10 typical cases, unifying judgment standards through disagreement discussion.

To ensure coding quality, the research employed phased coding strategies. During the pre-coding phase, two coders independently coded 100 randomly selected video samples to test coding scheme feasibility and identify potential issues. Based on pre-coding results, the research team further refined the coding scheme, particularly establishing clearer judgment criteria for boundary-ambiguous cases. During reliability testing, the research team conducted double coding on another 110 randomly selected video samples (approximately 20% of total samples). The team ensured satisfactory inter-coder reliability for key qualitative variables (Cohen's Kappa > 0.75) and high consistency for quantitative indicators ($r > 0.95$), establishing a reliable data foundation for subsequent analysis.

When coders disagreed on video coding, initial attempts were made to reach consensus through discussion. If agreement could not be achieved post-discussion, the first author served as a third-party arbitrator for final determination. The research team also established a difficult case repository, regularly discussing boundary-ambiguous cases and further refining coding rules based on these discussions. To ensure coding quality stability, coders conducted discussions and standard calibration after completing every 50 video codings, and the research team conducted 5% random spot-checks on completed coding samples, confirming sustained coding quality. Ultimately, the remaining 443 videos were formally coded by two well-trained coders through division of labor.

Based on preliminary theoretical frameworks and empirical exploration, the final coding scheme established clear classification systems across two core dimensions: narrative frameworks and identity recognition, detailed as follows:

Regarding narrative framework coding, the research team referenced Brown and Addington-Hall's (2008) four-fold illness narrative classification and, combined with short video platform expression characteristics, categorized cancer illness narratives into four types: (a) Sustaining narratives: characterized by patients accepting current conditions, focusing on daily life with minimal disease mention, and stable emotional expression; (b) Enduring narratives: emphasizing endurance and resilience, restraining emotional expression, manifesting as concise disease statements without displaying intense emotional reactions; (c) Preserving narratives: demonstrating active disease-fighting actions, including sharing treatment progress or anti-cancer experiences, attempting to pursue self-control; (d) Fractured narratives: presenting obvious emotional fluctuations, difficulty accepting reality, and focusing on disease suffering.

To ensure coders could accurately distinguish different narrative types, the research team further clarified core characteristic differences among types. The four narrative types embody different psychological coping strategies and emotional expression patterns of cancer patients facing illness. From an emotional expression dimension, sustaining and enduring narratives both tend toward emotional restraint, but the former emphasizes life normalization while the latter emphasizes stoic endurance; preserving and fractured narratives both exhibit strong emotional expression, but the former demonstrates positive fighting spirit while the latter reflects emotional collapse. From a disease attitude dimension, sustaining and preserving narratives both represent positive coping approaches, but the former pursues coexistence while the latter pursues victory; enduring and fractured narratives both reflect

patient predicaments, but the former involves passive endurance while the latter represents emotional dysregulation. Specific case distinctions for each type are detailed in the discussion section (Sections 5.1–5.2).

Simultaneously, the distinction between sustaining and preserving narratives requires further clarification, as both demonstrate positive coping with illness yet possess fundamentally different core concepts. Sustaining narratives emphasize “what can still be accomplished under disease limitations,” focusing on life continuity and normalization, neither denying disease reality nor framing it as a battle requiring victory. In contrast, preserving narratives center on “fighting against death,” actively seeking to increase survival opportunities, explicitly positioning disease experience as a battle requiring proactive engagement.

Regarding narrative identity recognition, we referenced Zhao and Mao's (2023) research, identifying three primary identity construction strategies: (a) Family member identity constructed through displaying kinship relations, emphasizing family bonds and responsibilities, such as patients appearing together with family members; (b) Patient identity constructed based on medical evidence, such as filming chemotherapy processes or displaying medical records; (c) Vulnerable group identity constructed through emotion-oriented strategies, emphasizing economic and social disadvantaged status, including specific groups such as migrant workers and left-behind children.

Additionally, coding work recorded content formats, video duration, commercial attributes, and demographic characteristics of narrative subjects (urban–rural attribution, age groups, gender, etc.).

3.5 Analysis methods

3.5.1 Transmission effect measurement indicators

Douyin employs a multi-tier traffic pool distribution mechanism, whereby videos receiving greater user feedback are more likely to obtain enhanced exposure (Xiang et al., 2024). This study selected like counts and comment counts as primary indicators for measuring transmission effects. The rationale for utilizing like and comment counts as transmission effect indicators includes: (1) Accessibility: The Douyin platform publicly displays like and comment data; (2) Interaction depth: Likes and comments represent different levels of user engagement. According to Zell and Moeller's (2018) research, writing comments on social media requires substantially more effort than “liking.” Likes function as “quantitative cues,” primarily reflecting users' immediate recognition or emotional resonance with content, representing relatively simple confirmatory behavior; whereas comments serve as “qualitative cues,” requiring deeper cognitive processing including content comprehension, opinion expression, and linguistic organization, thus better reflecting users' deep engagement and cognitive investment; (3) Literature foundation: These two indicators have been widely adopted in existing short video research (Zhu et al., 2020). It must be acknowledged that the exclusion of sharing counts, bookmark counts, follower growth, and other indicators constitutes a limitation of this study, potentially underestimating the transmission effects of certain content, particularly content receiving extensive sharing but minimal comments.

3.5.2 Reference group selection

In regression analysis, this study selected sustaining narratives and “no apparent identity” as reference groups, based on explicit theoretical logic and statistical considerations.

Rationale for sustaining narratives as reference group: From a theoretical positioning perspective, sustaining narratives represent the “emotional equilibrium state” within [Brown and Addington-Hall's \(2008\)](#) framework—acknowledging disease existence while maintaining life continuity, without inclining toward any extreme. In contrast, enduring narratives embody “quiet suffering,” preserving narratives manifest as “fighting against death,” and fractured narratives reflect “loss, fear, and denial of reality.” Sustaining narratives occupy a relatively balanced central position within this continuum, making them ideal reference points for measuring deviation degrees of other narrative types. Furthermore, sustaining narratives constitute 25.86% of the sample, providing sufficient sample size and statistical stability meeting regression analysis technical requirements.

Rationale for “no apparent identity” as reference group: Based on [Zhao and Mao's \(2023\)](#) identity construction theory, specific identity construction represents “strategic choice” aimed at “influencing audience reactions through role expectations.” “No apparent identity” represents the state of not employing any specific identity strategy, providing theoretical foundation for measuring strategic incremental effects of identity construction. This category comprises 34% of the sample, equally providing sufficient sample size. [Zhao and Mao \(2023\)](#) indicate that successful online help-seeking relies on the persuasive function of identity construction: family member identity operates through “altruistic projection” mechanisms, patient identity enhances credibility through medical evidence, and vulnerable group identity triggers sympathy through emotional resonance. Selecting “no apparent identity” as the reference group facilitates verification of identity construction's actual effectiveness as a transmission strategy.

This study's theoretical objective involves validating narrative strategy transmission function hypotheses. Sustaining narratives as emotional equilibrium narrative benchmarks and “no apparent identity” as identity construction strategic benchmarks jointly constitute the theoretical foundation for observing strategic deviation effects, enabling identification of transmission effect differences between specific narrative frameworks and identity construction strategies relative to “natural states.”

3.5.3 Model selection and diagnostics

This study initially employed ordinary least squares (OLS) for regression analysis but discovered severe assumption violations during model diagnostic procedures, necessitating transition to more appropriate statistical methods.

Residual diagnostics for OLS regression on like counts and comment counts revealed: (1) Heteroscedasticity: Residual versus fitted value scatter plots demonstrated obvious heteroscedastic characteristics in residual distribution, with concentrated residuals in low fitted value regions and significant outliers in high fitted value regions, violating homoscedasticity assumptions; (2) Non-normality: Q-Q plots revealed severe deviations of residual distribution from normal distribution, particularly in the right tail portion, where standardized residuals markedly exceeded theoretical quantiles, indicating residuals failed to satisfy normality assumptions; (3) Non-constant variance: Scale-Location plots further confirmed non-constant variance issues, with square

roots of standardized residuals exhibiting irregular variation as fitted values increased; (4) High leverage observations: Residual versus leverage plots identified several high-leverage extreme observations.

These diagnostic results indicated that ordinary least squares was inappropriate for count data, necessitating adoption of generalized linear models to address data non-normality and overdispersion characteristics.

3.5.4 Negative binomial regression model

Considering that both like counts and comment counts constitute non-negative count data exhibiting pronounced overdispersion characteristics (variance substantially exceeding mean), this study employed negative binomial regression models for analysis. Negative binomial regression represents an extension of Poisson regression that addresses situations where variance exceeds mean through introducing overdispersion parameters, making it particularly suitable for analyzing social media interaction data ([Hilbe, 2011](#)).

Model fitting results demonstrated that overdispersion parameter θ values for the baseline model were 0.243 (like counts) and 0.273 (comment counts), while the comprehensive model yielded values of 0.379 (like counts) and 0.3625 (comment counts), respectively. These θ values were all substantially less than 1, confirming significant overdispersion phenomena in the data and validating the appropriateness of negative binomial regression model selection.

3.5.5 Analytical strategy

The research employed a two-stage regression analysis strategy: First, constructing baseline models with like counts and comment counts as dependent variables and narrative framework types and narrative identities as primary independent variables; second, developing comprehensive models incorporating control variables including content type, work duration, and merchandise showcase features to assess whether core variable influences remained stable after controlling for other factors. In results reporting, this study presents both OLS and negative binomial regression results for comparison purposes, while primarily basing interpretation and discussion on negative binomial regression due to its superior statistical applicability for count data analysis.

4 Results

Through systematic analysis of 553 “cancer fighting diary” videos on the Douyin platform, this study explored the characteristics of illness narratives and their communication effects among cancer patients and their families on short video platforms. The following are the main research findings:

4.1 Demographic characteristics of cancer narrative videos (RQ1)

Detailed distribution of relevant demographic characteristics is shown in [Table 1](#). The analysis results reveal obvious imbalances in gender, region, and age distribution, which reflect the current state of cancer narrative communication and reveal potential socio-cultural influencing factors.

TABLE 1 Demographic characteristics of “Cancer Fighting Diary” videos ($N = 553$).

Characteristic category	Specific classification	Frequency	Percentage (%)
Gender	Female	440	79.57
	Male	76	13.74
	Non-binary gender	1	0.18
	Not mentioned	36	6.51
Region	Urban	421	76.13
	Rural	113	20.43
	Not mentioned	19	3.44
Age	Adults	500	90.42
	Elderly	30	5.42
	Children and adolescents	12	2.17
	Not mentioned	11	1.99
Other characteristics Video form	Open product showcase	330	59.67
	Video form	299	54.07
	Picture-text form	254	45.93

Mean video duration is 27.38 s (SD = 62.09).

Cancer illness narratives on the Douyin platform show significant gender imbalance, with females as narrative subjects accounting for 79.57%, while males only account for 13.74%. In terms of regional distribution, urban residents (76.13%) are significantly more than rural residents (20.43%), reflecting the urban–rural disparity in digital health communication. Age distribution is highly concentrated in the adult population (90.42%), with relatively low participation from the elderly (5.42%) and children and adolescents (2.17%). In addition, nearly 60% of accounts (59.67%) have activated the product showcase function, indicating that cancer illness narratives on the platform have manifested distinct commercialization characteristics.

4.2 Structural characteristics of cancer illness narratives (RQ2)

After analyzing demographic characteristics, this study further explored the framework types and identity construction strategies of cancer illness narratives on the Douyin platform. Based on [Brown and Addington-Hall's \(2008\)](#) illness narrative classification framework and [Zhao and Mao's \(2023\)](#) narrative identity theory, we systematically coded and analyzed 553 videos and analyzed the interactive combination of narrative types and narrative identities. The research results are shown in [Table 2](#).

The research results show that in terms of narrative framework types, preserving narratives characterized by actively fighting cancer dominate in quantity (51.72%), far higher than other types; sustaining narratives focused on daily life rank second (25.86%); enduring narratives with emotional restraint (14.1%) and fractured narratives with emotional fluctuations (8.32%) account for relatively low proportions. However, in terms of interaction effects, sustaining narratives have higher median likes (2,361) and median comments (444) than other types, indicating a certain difference between mainstream content distribution and communication effect advantages.

In terms of narrative identity, patient identity narratives account for the highest proportion (41.23%) and have significantly better interaction effects than other identity types, with a median of 2,491 likes and 657 comments. No obvious identity and family member identity account for 34 and 24.77% respectively, with relatively lower interaction effects.

Further analysis of the combination effects of narrative types and identities found that preserving narratives combined with patient identity is the most common combination, followed by sustaining narratives with no obvious identity, preserving narratives with no obvious identity, and preserving narratives with family member identity.

4.3 Analysis of factors influencing cancer illness narratives' communication effects (RQ3)

After clarifying the typological characteristics and identity construction strategies of cancer illness narratives on the Douyin platform, to further analyze the factors influencing their communication effects, we used likes and comments as the main metrics for measuring communication effects and adopted a two-stage regression analysis strategy: first constructing a basic model with narrative framework types and narrative identities as main independent variables, then incorporating control variables such as media form, work duration, product showcase, and demographic characteristics to construct a comprehensive model. Given that both like counts and comment counts constitute count data exhibiting overdispersion characteristics (variance substantially exceeding mean), this study employed negative binomial regression models for analysis while simultaneously reporting OLS results for comparative purposes. [Table 3](#) shows the main results of the regression analysis.

Negative binomial regression results demonstrate that media format constitutes the strongest predictor of transmission effects. In the comprehensive model, video format compared to image-text

TABLE 2 Structural characteristics of cancer narrative videos ($N = 553$).

Category	Sample size	Percentage (%)	Median likes	Median comments
Narrative framework type				
Sustaining narrative	143	25.86	2,361*	444*
Enduring narrative	78	14.10	229	101
Preserving narrative	286	51.72	1,458	210
Fractured narrative	46	8.32	288	107
Narrative identity				
No obvious identity	188	34.00	294	104
Family member identity	135	24.77	446	88
Patient identity	228	41.23	2,491*	657*
Some combinations				
Preserving \times Patient identity	151	27.31	11,047	770
Sustaining \times No obvious identity	70	12.66	7,979	495
Preserving \times No obvious identity	69	12.48	204	55
Preserving \times Family member identity	66	11.93	1,658	520

format exerts significant positive influence on like counts ($\beta = 3.404$, $p < 0.001$) and comment counts ($\beta = 2.687$, $p < 0.001$), indicating that on the Douyin platform, video format more effectively enhances the transmission effects of cancer narratives than image-text format. Merchandise showcase similarly produces significant positive effects, promoting both like counts ($\beta = 1.269$, $p < 0.001$) and comment counts ($\beta = 0.957$, $p < 0.001$).

Narrative framework types demonstrate complex patterns of influence on transmission effects. In the baseline model, with sustaining narratives as the reference group, preserving narratives exhibit significant negative effects on both like counts ($\beta = -0.618$, $p = 0.004$) and comment counts ($\beta = -0.704$, $p = 0.001$), while fractured narratives also demonstrate significant negative effects on comment counts ($\beta = -0.735$, $p = 0.024$). Although enduring narratives show negative coefficients in the negative binomial regression baseline model without significance, they produce significant positive effects on like counts ($\beta = 0.507$, $p = 0.032$) and comment counts ($\beta = 1.656$, $p < 0.001$) after incorporating control variables, indicating that emotionally restrained narrative strategies can actually promote user interaction when controlling for factors such as media format.

Narrative identity exerts significant influence on transmission effects. In the baseline model, with no apparent identity as the reference group, patient identity demonstrates significant positive effects on both like counts ($\beta = 0.693$, $p = 0.001$) and comment counts ($\beta = 0.962$, $p < 0.001$), while family member identity also exhibits positive effects on like counts ($\beta = 0.507$, $p = 0.027$). In the comprehensive model, family member identity's positive influence on like counts becomes more pronounced ($\beta = 0.693$, $p < 0.001$), indicating that identity construction strategies constitute important factors for enhancing transmission effects.

Additionally, geographical factors manifest significant influence in the comprehensive model, with urban residence promoting like counts ($\beta = 1.398$, $p < 0.001$) and comment counts ($\beta = 1.565$, $p < 0.001$) substantially more than rural residence effects on like counts ($\beta = 1.010$, $p = 0.014$) and comment counts ($\beta = 0.892$,

$p = 0.035$). Regarding gender factors, male narrative subjects demonstrate significant negative effects on comment counts ($\beta = -0.988$, $p = 0.005$).

To verify result robustness, this study reports both OLS and negative binomial regression results. Comparative analysis reveals that both methods demonstrate general consistency in influence direction and significance for core explanatory variables (narrative framework types, narrative identity, content type), validating the robustness of primary theoretical hypotheses. However, significant differences exist in statistical inference for platform mechanism variables: merchandise showcase, geographical factors, and gender factors show no significance in OLS but demonstrate significant effects in negative binomial regression.

This methodological difference possesses important theoretical implications. Traditional OLS regression cannot effectively address overdispersion characteristics of count data, potentially systematically underestimating the influence of platform technical characteristics and sociocultural factors on content transmission—factors that are precisely key to understanding digital-era health communication mechanisms. Negative binomial regression, through appropriate probability distribution assumptions and overdispersion parameter adjustments, reveals transmission influence factors masked by traditional OLS regression, providing more precise statistical tools and comprehensive theoretical insights for social media health communication research.

5 Discussion

5.1 The paradox of quantity dominance and interaction effect

A typical preserving narrative case published by User A features the patient recounting her cancer experience while shaving off her long hair. Though her eyes glisten with tears, her gaze remains steadfast. She describes in detail the various hardships encountered

TABLE 3 Regression analysis results of cancer narrative video communication effects (N = 553).

Variables	Likes				Comments			
Method	OLS		Negative binomial		OLS		Negative binomial	
Variables	β	P	β	P	β	P	β	P
Basic model								
Narrative framework type								
Enduring narrative	−17,740	0.002**	−0.262	0.361	−3,404	0.065	−0.199	0.464
Preserving narrative	−14,360	0.119	−0.618	0.004**	−4,487	0.001**	−0.704	0.001**
Fractured narrative	6,689	0.273	−0.474	0.169	−4,566	0.040*	−0.735	0.024*
Narrative identity								
Family member identity	17,340	0.002**	0.507	0.027*	185	0.900	0.296	0.170
Patient identity	−13,380	0.081	0.693	0.001**	4,352	0.001**	0.962	<0.001***
Comprehensive model								
Content type	32,740	<0.001***	3.404	<0.001***	4,712	0.001**	2.687	<0.001***
Product showcase	7,009	0.168	1.269	<0.001***	−133	0.917	0.957	<0.001***
Geographic factors								
Urban residence	8,813	0.471	1.398	<0.001***	1,684	0.587	1.565	<0.001***
Rural residence	2,746	0.832	1.010	0.014*	−534	0.870	0.892	0.035*
Narrative gender theme								
Male	−9,709	0.411	−0.035	0.919	−2,179	0.466	−0.988	0.005**
Female	94	0.993	0.574	0.056	−425	0.874	−0.149	0.627
Non-binary Gender	−2,884	0.956	0.370	0.823	313	0.981	−1.166	0.492
Narrative framework type								
Enduring narrative	−759	0.919	0.507	0.032*	−2,018	0.287	1.656	<0.001***
Preserving narrative	−4,451	0.442	0.183	0.320	−3,081	0.036*	0.104	0.582
Fractured narrative	−375	0.967	−0.081	0.776	−2,956	0.197	−0.377	0.198
Narrative identity								
Family member identity	4,315	0.488	0.693	<0.001***	−149	0.924	−0.090	0.639
Patient identity	6,349	0.253	0.141	0.426	3,151	0.025*	0.136	0.454

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; reference groups: maintenance narrative, no obvious identity, no mentioned residence area, no mentioned gender. Both OLS and negative binomial results are presented for comparison, with negative binomial regression being more appropriate for count data. Some control variables are not listed due to space limitations. The overdispersion parameter θ values for the basic model are 0.243 (likes) and 0.273 (comments), and for the comprehensive model are 0.379 (likes) and 0.3625 (comments), confirming the applicability of negative binomial regression. Bold values indicate statistically significant results ($p < 0.05$).

during her anti-cancer journey, including surgery, chemotherapy, and numerous physical complications—ultimately requiring removal of her right ovary due to an excessively large abdominal tumor. Throughout the illness narrative, the author occasionally displays signs of distress and moments of emotional breakdown, yet consistently emphasizes her ongoing commitment to treatment and recovery. In the video, she states: “I fear chemotherapy, but I have no choice; I must face my fear because only then can I heal.” This narrative structure exemplifies the core trait of preserving narratives—their emphasis on “seeking control”—where even expressions of vulnerability underscore the determination to defeat the disease.

Research data reveal that preserving narratives dominate cancer illness narratives on the Douyin platform (51.72%), far exceeding other types: sustaining narratives rank second (25.86%), while emotionally restrained enduring narratives (14.1%) and emotionally volatile fractured narratives (8.32%) represent smaller proportions. This distribution pattern reflects the pronounced bias toward positive,

rational expression in current cancer illness narratives on Douyin. It also embodies Chinese cultural emphasis on optimistic, resilient values. In social media environments, ‘positive energy’ has become a crucial cultural expectation, encouraging people to demonstrate positive attitudes, especially when facing significant challenges and adversity (Lu et al., 2021). This cultural orientation is evident in platform hashtag design—Douyin’s use of “#anti-cancer diary” rather than the more neutral “#cancer diary” suggests the dominance of positive disease-fighting discourse frameworks in digital spaces. Despite the quantitative prevalence of preserving narratives, negative binomial regression analysis confirms that sustaining narratives achieve significantly better results in fostering interaction and substantive discussion.

This phenomenon of “quantity dominance-limited effect” forms a noteworthy communication paradox. Although preserving narratives dominate in quantity, their ability to provoke in-depth discussion is relatively limited. This may be because contemporary society generally

holds “positive and optimistic” cultural expectations for cancer patients, thereby creating normative pressure (Lu et al., 2021), leading cancer patients to choose preserving narratives characterized by actively accepting treatment when constructing their cancer narratives. However, as Frank (1994) said, narratives that overemphasize “overcoming disease” may obscure the complexity of disease experience, limiting the space for exploring negative emotions such as pain and fear.

In the cancer diary hashtag, the work with the highest number of comments is a typical sustaining narrative video. In the video, a bald woman (due to hair loss from chemotherapy) holds a small cake alone to celebrate her birthday, smiling and saying: “The first birthday after getting cancer, happy birthday to me.” Although only she appears in the video, with no one else present, she insists on maintaining the sense of ritual in life, lighting candles and making wishes. Particularly notable is that her eyes reveal a sense of fullness, giving the impression that she seems not to be ill. This video does not convey pain to the audience but shows the theme of “life continues despite disease,” evoking widespread resonance. As mentioned earlier, sustaining narratives perform better than preserving narratives in both likes and comments, which may be closely related to their emotional balance mechanism. Sustaining narratives neither avoid the existence of disease nor emphasize the continuity of life, satisfying the audience’s dual psychological needs for authenticity and hope.

Videos uploaded by User B also demonstrate typical sustaining narratives. Her daily vlogs almost show no signs that she is a cancer patient, with video content including cooking for family, skincare, taking care of children, and other ordinary family life scenes, covering almost everything non-patients can do. This presentation of “patients can also live normal lives” effectively reduces the stigmatization of cancer, providing the audience with the possibility of imagining peaceful coexistence with disease, and also achieving good communication effects on the Douyin platform.

5.2 Cultural tensions in emotional expression

Videos posted by User C demonstrate enduring narratives with distinctive Chinese cultural characteristics. The video uses handheld shooting, without editing, with the author showing little facial expression change and emotional restraint, stating directly: “I have cancer, and it’s late-stage cancer. It will not make the disease heal because I stay in my hometown for a few days, breathing fresh air; nor will singing for a few days, dancing for a few days, make this cancer better.” She mentions “I used to only report good news and not bad news when calling my parents. When my parents asked about my physical condition, I always said I was fine.” This video reflects the connection between enduring narratives and the concept of “filial piety” in Confucian culture. Xu et al. (2024) point out that Confucian thought emphasizes the “practice form view,” that is, strengthening moral practice through bodily practice, concretizing moral character in real-life experiences. This thought makes endurance not only a way to cope with disease but also a moral performance, with patients demonstrating their moral cultivation through emotional restraint.

Negative binomial regression analysis reveals the underestimated transmission potential of enduring narratives. In the comprehensive model, when controlling for media format, commercial factors, and

other variables, enduring narratives produce significant positive effects on both like counts ($\beta = 0.507, p = 0.032$) and comment counts ($\beta = 1.656, p < 0.001$). This finding indicates that emotionally restrained narrative strategies actually possess potential for promoting user interaction, with their true transmission value emerging only after controlling for other factors.

The transmission advantages of enduring narratives revealed after controlling for variables provide compelling evidence for McLuhan’s (1964) “media as extensions of man” theory. The internet, as an emerging medium, has not altered Chinese people’s intrinsic identification with traditional virtues but has provided new vehicles for displaying these cultural values. The deep transmission effects of enduring narratives on short video platforms demonstrate that traditional Confucian values—particularly reverence for emotional restraint and moral resilience—retain powerful cultural appeal in the digital age. When surface factors like technical format and commercial considerations are controlled, audiences develop deep identification with this “embodied practice” form of moral expression, precisely illustrating that digital media showcase rather than change cultural traditions.

User D’s video demonstrates typical characteristics of fractured narratives. Shot from a selfie angle, the narrator expresses with tear-filled eyes and dejected emotions: “I used to be very optimistic, but after fighting cancer for over 4 years, all my edges have been worn smooth—I no longer have that fighting spirit.” This statement reveals the core of fractured narratives—breakdown is not an initial response to disease but emotional exhaustion and psychological collapse following prolonged struggle. Negative binomial regression analysis shows fractured narratives have significant negative effects on comment counts in the baseline model ($\beta = -0.735, p = 0.024$), with these negative effects persisting in the comprehensive model, indicating that intense negative emotional expression faces acceptance limitations in “positive energy”-dominated social media environments. Particularly noteworthy is that fractured narratives constitute only 8.32%, revealing important issues in digital health communication. This marginalization reflects social media platforms’ tendency to suppress narratives expressing vulnerability and despair. Under the dual influence of algorithmic recommendations and cultural norms, fractured narratives face systematic expression difficulties, not only limiting patients’ authentic emotional expression space but potentially intensifying isolation among patients in similar psychological states.

Interestingly, family member identity plays dramatically different roles across narrative types: the combination of enduring narratives with family member identity produces the poorest interactive effects, while fractured narratives combined with family member identity perform significantly better than other combinations. This difference can be understood through traditional Chinese cultural concepts of “human dignity theory” and Fei’s (1992) “differential mode of association.”

Xu et al. (2024), analyzing Confucian thought, note that “human dignity theory” emphasizes “relationships between people and society” in Chinese culture, with family members expected to demonstrate emotional care for patients. Fei’s (1992) “differential mode of association” in “From the Soil” further reveals this relationship’s structural characteristics: “like ripples created by throwing a stone into water,” social relationships form concentric circles extending outward from individuals, emphasizing kinship and

family ethics as central to social relations. Under this dual cultural logic of “human dignity theory” and “differential mode of association,” when family members adopt overly restrained enduring narratives, they violate audiences’ cultural expectations for familial emotional expression, conflicting with traditional Chinese “family-centered” culture and thus failing to generate identification.

Conversely, intense emotional expression in fractured narratives gains legitimacy within family member identity frameworks—audiences more readily understand and accept family members’ emotional collapse when facing loved ones’ illness. This finding reveals that family perspectives provide “emotional buffering mechanisms” for expressing negative emotions, making audiences more accepting and responsive to intense emotional expression. This reflects differential mode characteristics: within the most intimate relational circles, authentic emotional expression gains moral legitimacy.

This finding illuminates adaptive transformations of traditional values in the digital age. Enduring narratives embody traditional Confucian emotional restraint values, whose transmission value may be obscured by surface factors, requiring deeper levels to manifest true cultural resonance. Fractured narratives, representing emotional collapse after prolonged struggle, find legitimate boundaries for emotional expression within family ethical frameworks. This contrast indicates that patients’ emotional expression far exceeds the complexity of binary “positive optimism” versus “negative pessimism” classifications, suggesting that understanding emotional expression on digital platforms requires distinguishing between technical and cultural factors’ different operational mechanisms.

5.3 Association mechanisms between narrative identity and interaction patterns

Patient identity dominates the platform (41.23%) with optimal interactive effects, as baseline model regression analysis demonstrates significant positive influences of patient identity narratives on both like counts ($\beta = 0.693$, $p = 0.001$) and comment counts ($\beta = 0.962$, $p < 0.001$). Videos posted by User E rank second in number of comments among 553 videos. This video demonstrates the importance of “authenticity proof” in patient identity construction. By contrasting healthy status with hospital scenes, and labeling medical terminology (“#liver undifferentiated embryonal sarcoma”), a credible patient identity was established. The video comment section formed a mutual aid community centered on sharing treatment experiences: one user commented: “I used this chemotherapy regimen, the side effects are mainly...,” another shared: “A certain hospital will try to shorten hospitalization time, even requiring discharge on the same day after surgery.” This not only confirms Zhao and Mao’s (2023) view that patient identity relies on medical discourse systems to enhance credibility, but also reveals its new function: patients transform from passive recipients of medical knowledge to active sharers, constructing an experience-based shared knowledge system (Wright et al., 2021).

In the baseline model, family member identity produces significant positive effects on like counts ($\beta = 0.507$, $p = 0.027$) but no significant impact on comment counts ($\beta = 0.296$, $p = 0.170$), indicating that kinship narratives possess unique advantages in generating emotional identification. More notably, in the comprehensive model, family member identity’s promotional effect on like counts intensifies ($\beta = 0.693$, $p < 0.001$), becoming the most

significant transmission-promoting factor among all identity types. This finding reveals the unique value of family member narratives: in complex media environments and commercialization contexts, family members’ “third-person care” actually demonstrates stronger transmission resilience and appeal. A typical family member identity narrative case includes User F’s video of a mother holding her cancer-stricken infant while crying. The mother expresses emotionally: “The doctor told mommy to prepare mentally—you are only 11 months old, and mommy was still preparing your first birthday party. Mommy will try everything to save you, my son. Do not be afraid—mommy is here, and mommy will always protect you... I just want you to live. I love you.” The moving core of such narratives lies in their “dual emotional mobilization” mechanism—simultaneously displaying patient vulnerability and caregiver strength and sacrifice.

Although no obvious identity narratives do not match specific identity narratives in interaction volume, they account for 34% of the platform, indicating that this identity ambiguity strategy has value in specific contexts. The typical characteristic of this narrative identity is visually downplaying patient identity, but attitudes toward disease are diverse and may also be negative. For example, User E displays daily life wearing headphones and singing with beautiful makeup, only mentioning cancer in the caption: “Even if I fail to beat cancer, at least I tried...” Meisenbach (2010) stigma management communication theory points out that individuals can actively manage stigma by accepting or denying stigma and its applicability. Cross-analysis found that the proportion of fractured narratives in no obvious identity narratives is significantly higher than in other identity types, indicating that identity ambiguity provides a safer space for expressing negative emotions, reducing the risk of stigmatization for violating the social expectation of being a “positive patient.”

5.4 Gender and regional participation differences

Cancer illness narratives on the Douyin platform exhibit pronounced gender imbalance, with female narrative subjects comprising 79.57%. Negative binomial regression analysis reveals that male narrative subjects produce significant negative effects on comment counts ($\beta = -0.988$, $p = 0.005$), while female narrative subjects demonstrate marginally significant positive effects on like counts ($\beta = 0.574$, $p = 0.056$).

These gender-based transmission differences stem from multiple compounded mechanisms. First, traditional cultural norms shape differential emotional expression expectations—masculine ideals emphasize strength and control, while women receive greater social license for emotional expression. More fundamentally, these differences reflect platform algorithms’ and commercial logic’s differential treatment of gendered content.

Platform algorithmic mechanisms reinforce gendered participation patterns. As research on social platforms like Instagram reveals, algorithmic systems often assign higher visibility weights to emotionally labor-intensive content (Duffy and Wissinger, 2017; Lou et al., 2024). Within Douyin’s recommendation algorithm system, female cancer narratives often possess stronger emotional appeal and social stickiness through displaying chemotherapy scenes, post-illness bodily changes, and other body-centered emotional expression strategies, better aligning with platform definitions of “high-quality content” and thus gaining advantages in recommendation distribution.

Lou et al. (2024) note that social media platform algorithms adjust content recommendation strategies by learning user behavioral patterns, mechanisms that somewhat reinforce specific gendered expression patterns. Comparatively, male cancer narratives are often algorithmically identified as “low emotional density” content, disadvantaged in recommendation weights and struggling to form deep discussion ecosystems. Platform recommendation mechanisms produce Matthew effects based on initial user composition (Xiang et al., 2024), whereby health topics with predominantly female users continue attracting more female participants, further reinforcing these gendered participation patterns. This phenomenon validates McLuhan’s (1964) “media as extensions of man” theory—women’s emotional labor roles in family health communication receive technological extension and amplification on short video platforms.

Notably, while female narrators vastly outnumber male narrators quantitatively, this does not necessarily indicate complete male patient absence from cancer narratives. Based on qualitative analysis, we identified considerable videos presenting women “advocating” for male patients—wives helping husbands narrate, mothers helping sons narrate, daughters helping fathers narrate. As Ten Brummelhuis and Greenhaus (2018) demonstrate, women consistently provide emotional support across different life roles regardless of competing demands, a pattern that clearly extends to cancer illness narratives on Douyin. For example, one female narrator, though not herself a cancer patient, states while helping her father with illness narratives: “When dad was healthy, I thought my parents’ relationship was just constant bickering. Now cancer has made my mom follow him closely everywhere, bringing our family of three back to how we were when I was little.”

Urban–rural distribution disparities (urban 76.13%, rural 20.43%) reflect participation gaps in digital health communication. Negative binomial regression analysis shows urban residence backgrounds produce stronger promotional effects on user interaction behaviors, while rural background influences remain relatively weak. Urban residents’ dominance in cancer narratives may relate to digital device penetration rates, internet usage frequency, and medical resource accessibility. Chen J. (2022) and Chen Y. (2022) research indicates that short videos’ cultural foundation is “lived experience,” characteristics highly compatible with urban life’s fragmentation and immediacy, enabling urban residents to more easily transform cancer experiences into short video content.

These findings reveal complex interactive mechanisms between cultural norms and technological logic in cancer narrative transmission. As Heeris Christensen et al. (2024) note, platform algorithms not only reflect existing social gender expectations but actively shape and reinforce these biases through technological means, forming compound gendered mechanisms involving culture, technology, and commerce. This suggests that advancing digital health communication policies and practices requires particular attention to rural areas and male patients’ needs, establishing more inclusive digital health communication ecosystems.

5.5 Commercialization trends in cancer illness narratives

Research data reveal that nearly 60% of accounts (59.67%) have activated merchandise showcase functions, indicating pronounced commercialization trends in cancer illness narratives on short video

platforms. This commercialization inclination closely relates to economic pressures faced by cancer patients in China and globally. The World Health Organization’s 2023 report shows that approximately 4.5 billion people (56% of the population) lack complete access to essential health services, while 1 billion people fall into economic hardship due to out-of-pocket medical expenses (WHO, 2023). In China, particularly in regions with insufficient medical insurance coverage, patients with severe illnesses often face catastrophic medical expenditure challenges (He and Nolen, 2019; Murphy et al., 2020). Although online medical crowdfunding platforms like “Shuidichou” provide fundraising channels for some patients, their success rate in China is merely 18% (Jin, 2019), prompting patients to seek more diversified economic support mechanisms.

Qualitative analysis reveals that commercialization of cancer illness narratives manifests primarily across three dimensions: first, patients obtaining sales commissions through sharing health supplements and nutritional products; second, accumulating followers through sustained illness narratives and subsequently promoting unrelated merchandise; third, leveraging illness identity to establish personal brands and secure advertising partnerships. These commercial practices increasingly blur boundaries between illness experience sharing and commercial marketing. Negative binomial regression analysis further confirms that activating merchandise showcases produces significant positive effects on video interaction, potentially relating to users with merchandise showcases possessing stronger content production capabilities or platform algorithmic traffic bias toward commercialized content.

Comment sections also display unique commercial interaction patterns, such as comments like “Sister, your recent videos have much clearer picture quality! Did you change phones? Where did you buy the new phone? Are there any subsidies? Where did you recycle the old phone? How’s the quality?” that deliberately mention product details and purchase channels. These comments actually help patients improve their “product promotion” effectiveness, increasing video content conversion rates. Another type involves direct supportive interactions like “This is the first time I will not skip ads, so you must get better!” indicating some audiences have begun viewing commercial content consumption as a way to support patients.

From a theoretical perspective, this phenomenon embodies typical characteristics of what Lupton (2014) describes as the “digital patient experience economy,” whereby patients’ illness experiences and medical evaluations not only provide support and information for other patients but also create new economic value flow patterns. As Mazanderani et al. (2013) note, the “biographical value” of illness narratives in contemporary medicine conceptualizes the inherent mechanism of illness narrative commodification—personal illness experiences transform into exchangeable market value.

However, commercialization trends also introduce serious ethical risks. During data cleaning, this study identified 110 videos (15.4%) among 732 total videos as advertising content, likely published by non-cancer patients merely exploiting cancer topics to promote products or services. Qualitative observation revealed typical false narrative cases: User G’s video featured a woman’s photograph with post-production software-added text reading “Five years with terminal lung cancer—this checkup went smoothly, all thanks to daily herbal soup. Now I can eat and sleep well.” The image quality appeared insufficiently clear, obviously a reposted photograph. Further investigation revealed the same photograph repeatedly posted three

times on the user's homepage, with a bio stating "Message for herbal soup information," confirming health supplement sales behavior upon private messaging.

Such false narratives exhibit highly similar rhetorical patterns, typically claiming "terminal cancer cured thanks to herbal medicine," exploiting cancer patients' desperate psychology and treatment yearning when facing life threats—even knowing cancer requires long-term professional treatment, patients in desperation remain willing to attempt any possible treatment methods. This false advertising constitutes economic exploitation of patients and, more seriously, may mislead patients into abandoning or delaying proper treatment. This aligns closely with Eriksson (2023) analysis of commodified markets for mental illness personal experiences, revealing exploitation risks when personal illness experiences become tradeable commodities.

False narratives damage authentic cancer narrative credibility through two mechanisms. First, direct trust dilution effects—when some users identify false information but choose not to publicly challenge it, they develop suspicion toward the entire cancer narrative ecosystem. Second, indirect empathy consumption mechanisms—false narratives obtain public sympathy by mimicking authentic patients' discourse patterns and emotional expressions, primarily targeting fellow patients to purchase promoted products. This instrumentalized use of sympathy gradually consumes public trust in authentic patient narratives, as Willis and Delbaere (2022) note regarding ethical boundary ambiguities in "patient influencer" phenomena.

Most comments in comment sections offer positive blessings like "Wishing you speedy recovery," potentially reflecting user goodwill but possibly indicating some users' inability to effectively identify false information. The critical issue lies with users who identify false information but remain silent—their distrust affects acceptance of subsequent cancer narrative content, forming what Thelandersson (2020) describes as a vicious cycle of "empathy commercialization."

The commercialization phenomenon of cancer narratives embodies what Ma et al. (2023) identify as multifunctional development of social media cancer narratives—not only fulfilling personal expression needs but creating social connections and practical value. This multifunctionality becomes more pronounced on short video platforms. Positively, Douyin's merchandise showcase provides potential economic support channels for patients, potentially alleviating treatment-related economic burdens. Negatively, commercial factor intervention may affect narrative authenticity.

6 Practical recommendations

6.1 Recommendations for short video platforms

Ensuring Narrative Type Diversity: This study reveals that fractured narratives are disadvantaged both in quantity (8.32%) and transmission effects, with these expressions of intense negative emotions potentially facing dual marginalization. Platforms should enhance the visibility of different narrative types in their algorithmic design, ensuring that all voices—including fractured narratives—have opportunities to be heard, thereby preventing narrative ecosystem imbalance caused by transmission effect disparities.

Promoting the Functional Characteristics of Sustaining Narratives: This study found that while sustaining narratives are fewer

in number, they demonstrate significant transmission effects, indicating stronger user acceptance and engagement with everyday, life-oriented cancer narratives. Platforms could develop corresponding features to foster such narratives, such as designing specialized hashtags like "Patient Life Moments" to encourage patients to share daily life scenes beyond treatment, enriching the expressive dimensions of cancer narratives.

Strengthening Commercial Fraud Identification and Governance: Based on the significant transmission advantages of patient identity and the discovery of 15.4% false advertising content, platforms should intensify scrutiny of commercial fraud in cancer narratives, establishing dedicated identification mechanisms to combat obvious commercial fraud behaviors such as repeatedly posting identical content, leaving contact information to promote products, and falsely advertising treatment effects.

6.2 Recommendations for medical institutions

Establishing Evidence-Based Patient Digital Narrative Education Systems: Medical institutions could develop comprehensive digital health literacy training programs, creating training materials as booklets to be placed in various hospital departments. Content should include: how to select appropriate narrative strategies based on individual circumstances, how to protect personal privacy, how to identify false information, and other key skills. These resources should be easily accessible and understandable, providing patients with digital health communication guidance.

Recognizing the Communication Role of Family Members: Research indicates that caregiver-targeted education can effectively improve their coping skills (Berry et al., 2017). Based on this study's findings regarding the crucial role of family members in digital health communication, medical institutions could incorporate digital narrative training into existing family caregiver education systems, providing specialized narrative skill guidance to fully leverage family support networks in digital health communication.

6.3 Recommendations for patient communities

Optimizing Digital Narrative Strategies: This study's findings indicate that Douyin's traffic allocation mechanism favors life-oriented sustaining narrative content. Patients hoping to gain more interaction and support might consider sharing more daily life scenarios and authentic feelings. Meanwhile, the significant gender participation imbalance suggests that patient communities could explore diversified expression modes, including family advocacy and collective narratives as indirect participation models, enriching cancer narrative expression channels. Of course, patients should choose appropriate narrative approaches based on their genuine feelings and expression needs, rather than altering their authentic state merely for traffic.

Building Peer Support-Based Self-Governance Mechanisms: Patient opinion leaders can play demonstrative and guiding roles by sharing successful narrative practices, helping new patients learn how to effectively express themselves and gain support in digital spaces, forming positive community self-education mechanisms.

6.4 Recommendations for policy development

Establishing Comprehensive Digital Health Communication Governance Systems: The complex transmission mechanisms revealed by this study indicate that digital health communication requires systematic policy intervention. Relevant departments could establish refined governance frameworks based on narrative types and transmission patterns, providing differentiated support and regulation for various health narrative types. Addressing structural issues such as urban–rural participation disparities, health departments could collaborate with patient advocacy organizations or volunteer teams to provide digital skills training and expression guidance for rural patients and groups with relatively weak digital skills, promoting more equitable and inclusive digital health communication ecosystems.

Promoting Multi-Party Collaborative Commercialization Governance: The commercial fraud issues in false narratives highlight the importance of collaborative governance involving platform technical identification, medical professional judgment, and regulatory enforcement. Cross-sector cooperation mechanisms help form comprehensive governance systems integrating technology, professional expertise, and legal frameworks. The necessity of such collaborative governance models in health information governance has been confirmed in relevant research (Warnke et al., 2024).

7 Conclusion

This study systematically analyzed 553 cancer narrative videos on the Douyin platform, revealing the transmission mechanisms and cultural characteristics of illness narratives within the short video ecosystem. The research uncovered a significant paradox between framework selection and transmission effectiveness in cancer narratives: although narrative types characterized by actively fighting cancer account for more than half of the total content, narrative types focusing on daily life demonstrate superior interaction effects, revealing the co-construction mechanism of “cultural expectations–technical rules” in Chinese digital health communication. The extreme scarcity of fractured narratives (8.32%) and their poor transmission performance reflect the platform’s systematic marginalization of negative emotional expression. In terms of narrative identity construction, patient identity and family member identity gain transmission advantages through professional credibility and emotional resonance, respectively. Furthermore, the commercialized operation of nearly 60% of accounts highlights the ethical risks of illness narrative commodification, while significant gender and urban–rural participation disparities reveal structural disparities in digital health communication.

Data availability statement

The original contributions presented in the study are included in the article/[Supplementary material](#), further inquiries can be directed to the corresponding author/s.

Ethics statement

Ethical approval was not required for the study involving human data in accordance with the local legislation and institutional requirements. Written informed consent was not required, for either participation in the study or for the publication of potentially/indirectly identifying information, in accordance with the local legislation and institutional requirements. The social media data was accessed and analyzed in accordance with the platform’s terms of use and all relevant institutional/national regulations.

Author contributions

KJ: Writing – original draft, Methodology, Software, Formal analysis, Data curation, Conceptualization, Writing – review & editing, Project administration, Validation, Investigation. ZL: Supervision, Methodology, Writing – review & editing, Conceptualization.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fcomm.2025.1634011/full#supplementary-material>

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