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Postprint: Research on Medical Science Popularization Short Videos for Health Communication on the Douyin Platform

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Abstract

Against the backdrop of building a national health era, conducting health science communication for the public has become increasingly critical. The mass production and dissemination of health-related short videos have opened new avenues for health communication, holding significant implications for the development of China's health communication industry and the construction of Healthy China. This study takes medical science popularization short videos on the Douyin platform as its research object, examining their characteristics in production and dissemination, identifying existing problems in their dissemination on the platform, and proposing solutions to standardize health-related short videos in response to the current situation.

Full Text

A Study on Health Communication Short Videos of Medical Science Popularization on the Douyin Platform

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Abstract

Against the backdrop of building universal health, health science popularization for the public has become increasingly important. The mass production and dissemination of health-related short videos has opened new avenues for health communication, holding significant meaning for the development of China's health communication cause and the construction of Healthy China. This paper takes medical science popularization short videos on the Douyin platform as its research object, examining their characteristics in production and dissemination,

identifying existing problems in their spread on Douyin, and proposing solutions to standardize health-related short videos based on the current situation.

Keywords: Health Communication, Medical Science Popularization, Short Videos

With the approval of the State Council, since January 8, 2023, China lifted the Category A infectious disease prevention and control measures stipulated in the Law of the People's Republic of China on the Prevention and Treatment of Infectious Diseases for COVID-19, implementing "Class B management" for the virus. As the state adjusted its control measures, infection numbers gradually increased. However, many citizens lacked in-depth understanding of the virus and urgently sought relevant information online, causing a surge of medical science popularization short videos related to the topic to quickly rise to the top of Douyin's trending lists.

On one hand, medical science popularization short videos posted by various self-media accounts on Douyin can timely disseminate relevant knowledge to the public. On the other hand, the production and dissemination of these videos have simultaneously generated numerous problems. This paper examines popular medical science popularization accounts on Douyin, analyzing their characteristics and current state, problems and misconceptions, and strategies and recommendations across three sections.

I. Characteristics and Current State of Health Communication Short Videos of Medical Science Popularization on the Douyin Platform

(I) Storytelling Expression, Easy for Audience Comprehension

From a functional perspective, health communication primarily refers to the process of creating, transmitting, and sharing health information through various channels and media methods to maintain and promote public health. It represents the specific application and deepening of general communication behavior in the medical field [1]. Due to their inherent medical nature, health-related topics are often obscure and difficult to understand, and even relatively simple content can feel dry and dull to audiences. For the purpose of popularizing science among the public, health knowledge must target broad social populations, aiming to maintain and improve the health literacy of the masses through simple, intuitive methods.

As a crucial platform for short video production and dissemination, Douyin offers rich modes of information expression and linguistic performance, making content creation more vivid, engaging, and dynamic. This high degree of creative freedom directly enhances the accessibility and appeal of health communication content. From a creative standpoint, health communication creators can leverage various special effects, sound effects, and background music provided by Douyin to increase content interest and capture audience attention.

Beyond the support of Douyin's various features and special effects, the unique narrative style of short videos also provides more options for health communication content production. For instance, "Yi Lu Xiang Qian Wei Zi," a leading health account on Douyin, narrates real medical cases through titles such as "A Well-Intentioned Nanny's Mistake Leads to Elderly Patient's Toe Amputation" and "Heartbreaking! Oncologist with Colorectal Cancer Liver Metastasis and Lung Cancer—His Advice Everyone Must Hear." This storytelling approach enhances the appeal of science popularization content, preventing knowledge-based material from becoming tedious. Audiences learn from one story after another, reflecting on health-damaging mistakes and expanding their knowledge of health-promoting practices.

(II) Bidirectional Interactivity, Extremely High Dissemination Efficiency

Currently, public attention to health topics has increased significantly, transforming health knowledge from niche content into trending material. On one hand, as the pandemic continues to evolve, health issues relevant to everyone have become a focal point of public concern. On the other hand, Douyin's inherent dissemination attributes facilitate the broad spread of health content.

According to the "2022 Douyin Knowledge Data Report" released on December 28, 2022, the number of knowledge-based works posted on Douyin increased by 35.4% from January to October 2022. In October 2022, Douyin users who liked knowledge content five times or more reached 250 million, representing a 44.1% increase from early 2021. The report also published a TOP10 list of China's most learning-oriented cities on Douyin, ranked by user numbers, with Shanghai in third place showing particular preference for medical and health knowledge content. From January to October of this year, knowledge videos and graphic content were shared a total of 12.6 billion times, averaging 20 shares per user to friends and family. These data demonstrate that knowledge content has seen substantial growth compared to last year across multiple dimensions, including content volume, user numbers, and user engagement.

Short video platforms like Douyin inherently possess social media attributes, allowing users not only to watch various short videos but also to like, forward, and comment on them [1]. Compared to other platforms, Douyin's primary characteristic in content distribution is "strong public domain, weak private domain." Push notifications based on big data algorithms grant works greater public domain traffic, realizing a shift from "people seeking health knowledge" to "health knowledge finding people" [2]. Furthermore, interaction on Douyin is unrestricted in scope, enabling engagement among friends from contact lists, video creators, and even complete strangers. This social media-style bidirectional interaction further accelerates the dissemination speed of health short videos, enhancing audience understanding and cognition of health content through processes of replying and being replied to.

(III) Timely Updates, Closely Following Real-Time Hotspots

Currently, the internet has entered the 5G era, and short videos are reaching millions of households with greater efficiency and convenience. Like other categories of short videos, health-related content needs to follow trending topics to gain greater traffic. On one hand, hotspot-related content is what users care more about and are more willing to watch, facilitating the dissemination of science popularization videos. On the other hand, this relates to Douyin's traffic distribution mechanism. Videos with hot content tags or related to trending topics can be distributed to more users, obtaining greater exposure.

Moreover, health short videos that closely follow real-time hotspots play a crucial role in public health emergencies. During infectious disease outbreaks, citizens who lack understanding of disease prevention and treatment often experience panic, leading to rampant rumors and excessive hoarding of medications under tense atmospheres. In such situations, science popularization short videos that keep pace with hot topics can provide targeted answers to relevant questions, helping the public to scientifically and systematically understand, prevent, and treat diseases while also stabilizing society and soothing public sentiment. Additionally, they can debunk rampant rumors during public health emergencies. Throughout this process, high-quality health science popularization videos serve an important function.

II. Problems and Misconceptions of Health Communication Short Videos of Medical Science Popularization on the Douyin Platform

(I) Content Fragmentation and Frequent Quoting Out of Context

In today's fast-paced era, short video content stands out among various media due to its "short, small, and fast" characteristics, aligning with contemporary lifestyles and gradually transforming people's thinking patterns. Fragmented content obtained from the internet has increasingly become a primary source of life information. The production and dissemination of health short videos rely on these "fragmented," "short, small, and fast" features to quickly and simply convey large amounts of information to audiences, yet this also traps people in a sea of redundant fragmented information.

Since popularizing health knowledge can easily become tedious, most health short videos feature real doctors on camera explaining health knowledge through oral narration. Creators compress health information to the maximum extent, visualizing, personifying, and vitalizing it through a series of processes to extract the most essential content for audiences. While this format enhances content appeal and doctor affinity, it is simultaneously constrained by time limits and audience decoding difficulty, inevitably leading to information omissions. Alternatively, simple oral narration may cause audiences to overlook conditional prerequisites, or the information may become distorted after excessive fragmen-

tation and quoting out of context, resulting in widespread dissemination that creates audience misunderstanding.

For example, during the COVID-19 outbreak, claims that “Lianhua Qingwen treats COVID-19” instantly made Lianhua Qingwen capsules a hot-selling, out-of-stock product. Some netizens even circulated a short video of Academician Zhong Nanshan stating, “We have the confidence and evidence to say that Lianhua Qingwen capsules are truly effective.” This clip was excerpted to prove that Lianhua Qingwen treats COVID-19, but in the original video, the academician expressed that Lianhua Qingwen only has an inhibitory effect on the virus. Such quoting out of context, which completely distorts the original meaning, frequently occurs on the internet. However, the dissemination of health-related content concerns everyone’s physical well-being and requires more rigorous and meticulous production and distribution.

(II) Difficulty Distinguishing Information Authenticity and Uncertainty of Doctor Credentials

Douyin is home to numerous experienced and skilled doctors. Simply searching for “doctor” yields a vast number of doctor accounts that can even be categorized by medical department. While the proliferation of doctor-run self-media accounts facilitates health content dissemination, it also attracts many fake doctors who exploit the doctor label to sell products.

A considerable number of “Putian system” doctors on Douyin frequently pose as experts in certain difficult and complicated diseases, recommending medications to attract viewers to purchase through their personal storefronts. Others simply don white coats and stethoscopes, stealing video content from other doctors to post their own medical science popularization videos and charging fees for online consultations. These fake online doctors without any medical foundation not only defraud people of money but also cause victims to take prescription drugs indiscriminately without professional medical guidance, potentially resulting in irreversible physical consequences.

These fraudulent fake doctors running rampant on Douyin not only violate citizens’ rights and interests but, if left unchecked, will also turn the platform into a breeding ground for pseudo-doctors [1]. As the number of victims grows, users will eventually become skeptical of health science popularization on short video platforms, extinguishing the positive momentum of health communication and exacerbating conflicts between doctors and patients.

(III) Content Commercialization and Declining Video Quality

As Douyin’s commercialization expands, monetization methods for account operations have gradually diversified. Health video accounts can insert advertisements through explicit or implicit means, leveraging account authority and user trust in the account holder to promote products. By integrating advertising content into videos and “selling” products to their audience, creators maximize

profits from product sales, such as advertisements for health supplements, medications, and hygiene products.

Under this promotional model, if the products sold are appropriate and of high quality, it can be considered a sound sales approach. However, in certain circumstances, excessive commercialization of health short videos can negatively impact health communication. First, product marketing in health short videos may trigger blind purchases by users. Once problems arise during product use, trust in the account holder will completely collapse, and if the issue gains traction online, it will create further trust problems for the production and dissemination of health short videos. Second, whether soft or hard advertising, both affect user experience to some degree. When content producers devote excessive effort to creating and promoting product advertisements, or substantially increase the amount of advertising in their works, video content quality inevitably declines. How to balance the relationship between science popularization content and advertising placement in health short videos is a major issue requiring attention.

III. Strategies and Recommendations for Health Communication Short Videos of Medical Science Popularization on the Douyin Platform

(I) Gatekeeping Account Holders and Strengthening Platform Supervision

As a leading short video platform, Douyin must enhance its management capabilities and address existing governance issues while attracting massive traffic. The platform needs to strictly implement verification mechanisms to authenticate doctor credentials. Additionally, it should regularly clean up pseudo-science accounts that operate under the banners of folk remedies, experts, or miracle doctors by fully utilizing platform technological means. Meanwhile, as the platform develops, the rapid commercialization of short video accounts has created an imbalance between public welfare and commercial interests in health short video dissemination [2].

From short video publication to product sales, the platform should strengthen supervision of this entire process. First, it must crack down on and ban accounts that produce false, low-quality, or deceptive science popularization videos, curbing at the source low-quality accounts that promote and sell unverified products under the doctor label to deceive consumers. Second, it should conduct qualification screening of health science popularization accounts and verify the legitimacy of products sold to ensure quality and safety. Currently, Douyin has implemented certain measures for account review, releasing the “Douyin Community Medical Convention.” On the platform, only verified users are permitted to publish medical science popularization content; unverified users cannot publish medical science popularization but may only release general health popularization. These measures have had some effect in combating fake accounts,

though some still slip through the cracks. In the current era of technological empowerment, machine review remains somewhat rigid, while manual review consumes significant human resources. The development and deployment of artificial intelligence can enable more flexible and efficient review and gatekeeping. In summary, as the platform operator, Douyin should fully fulfill its gatekeeping role by screening account holders to prevent fraudulent accounts from scamming users and low-quality products from being sold.

(II) Promoting Official Accounts and Ensuring Content Quality

Producing health science popularization short videos requires certain entry “thresholds.” Grassroots-style dissemination cannot become the mainstream orientation for this type of content; scientificity, professionalism, and rigor are the fundamental principles that content publishers should uphold [1].

Even though Douyin now verifies certified yellow-V doctors, phenomena still occur where different doctors express conflicting opinions. First, more official institutional accounts should be created and promoted, with professional medical teams established to plan, produce, and review account content. The identities of creative team members must be verified and screened to ensure their authoritative credentials. Second, high standards should be set for content quality control, with multiple layers of review for accuracy, reliability, and authenticity, aiming for high-quality health communication content as the production goal to guarantee the fundamental requirements of health science popularization. In terms of values and emotions, creators should not exaggerate in titles to pursue traffic and attention, nor should they use provocative or extreme vocabulary to attract eyeballs; instead, they should establish correct health value concepts [2]. Third, attention should be paid to fan comments, focusing on issues that concern users and identifying next topics from important issues that everyone is paying attention to. For instance, during the widespread transmission of COVID-19, no professionals explained the meaning of “asymptomatic” COVID-19, leaving many users still unaware of its significance.

Finally, a perfect balance must be struck between commercial and public welfare interests, always adhering to the principles and bottom lines of professional content production through professionalism. As opinion leaders, creators should pay attention to the emotion and wording of their discourse expression, exerting positive and constructive public opinion guidance.

(III) Strengthening Publicity and Guidance to Improve Media Literacy

According to the 51st “Statistical Report on China’s Internet Development” released by the China Internet Network Information Center (CNNIC), as of December 2022, China’s internet user population reached 1.067 billion, an increase of 35.49 million from December 2021, with an internet penetration rate of 75.6% [3]. While internet penetration continues to rise annually, media liter-

acy among China's short video users remains uneven, with insufficient ability to distinguish information authenticity. When faced with short video promotions or "fake doctors," users lack discernment capabilities and easily follow blindly. Incorrect medication purchases or believing false rumors can cause irreversible negative impacts on physical health.

Platforms and relevant management departments should strengthen publicity to help netizens identify information authenticity, guiding them on how to distinguish the credibility of health-related content online: first, check whether the account is officially verified; second, verify if it is a leading account; third, confirm whether promoted products are legitimate; fourth, observe whether the account creator uses overly exaggerated or absolute language, describes problems vaguely, or incites panic, among other indicators. For the public, health short videos are a quick way to enhance knowledge, yet problems brought by a minority of health short videos still persist. Therefore, media literacy is an essential capability that citizens must continuously improve through their internet usage.

In today's era of booming new media, doctor participation in the short video industry is inevitable. Health communication short videos now play a tremendous role, disseminating popular science on trending health issues online and stabilizing public sentiment during sudden public events. However, simultaneously, the uneven quality of short video production and dissemination has introduced certain hidden dangers. Therefore, to ensure that health communication short videos continue to play an important role, multi-party collaboration is needed to manage health communication content, creating an orderly, healthy, and correctly guided health communication environment.

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