An Analysis of the Impact of Information Dissemination Modes of Short Videos on Health Communication on Adolescent Behaviors

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Abstract. The appearance of mini-video has significantly transformed the setting in health promotion, which is most likely to be used during adolescence. Although the general impact of social media on the mental health of the youth has been extensively investigated, little has been investigated into the contribution of particularities of dissemination specific to the short video, i.e. algorithmic curatorship, virality, immersive, audio-visual and storytelling. The given research is based on the systematic literature review methodology; the authors attempt to find a correlation between health communication based on short videos and adolescent behaviors through the interdisciplinary literature published in 2015-2024. The applied theoretical frameworks of the research are a combination of the health belief model, social learning theory and media richness theory. The results indicate that the impact of adolescent mental health literacy, help-seeking, and overall well-being is highly situational and responsive to the user needs, the nature of the content producer (health professional and influencer), and platform characteristics. On this note, it is highlighted that, even though short videos make an effective trio of engagement and destigmatization, they also bear the dangers of misinformation and unwanted social comparison.

Keywords: Short video, Health communication, Adolescent mental health, Algorithmic curation, Social media

1. Introduction

The new short video platforms, such as TikTok (Douyin) and Instagram Reels, have changed the nature of information dissemination in health communication [1]. These platforms leverage advanced algorithms to curate and present content in highly engaging, smaller, bite-sized formats, hence the popularity among young adolescent audiences. Current research extensively reports on the general effects of social media on youth, with a recent scoping review supporting a complex relationship between social media and youth. At the same time, some studies find that problematic and passive use of social media is associated with adverse outcomes, such as depression and anxiety, and others find that there are positive aspects of social media, such as increased social support [2]. However, this general focus on "social media" tends to ignore the affordances, particularly regarding formats. Thus, a large body of research exists on the extent to which the unique ways in which

information is disseminated, inherent to platform-specific short videos, such as algorithmic personalization, virality, and immersive, audio-visual storytelling at an individual level, have specific effects on the efficacy of health messages and act on adolescent behaviour.

Emerging research demonstrates that the video format is a critical variable. For example, studies on health content creators have identified that short videos and livestreams may have different roles and effects. Specifically, it has been found that short-form content is a powerful driver of long-term follower engagement, which is an important metric to identify long-term influence [3,4]. Furthermore, the interaction with this form is not homogeneous across all users. Grounded theory is a qualitative approach that relies on the systematic collection and examination of data to create theory directly from the collected information [5]. Using this approach, research revealed that for vulnerable groups like college students with psychological disorders, the use of videos, at least for short-term use, is a complex behaviour that grows out of negative cognitions, lack of social support and a desire for gratification from a virtual world [6]. The findings imply that the debilitating result of health communication is mediated by the creator's strategy and the individual user's pre-existing mental state. Other methods, like digital storytelling (DST), have been demonstrated to promote the marginalized's voices, while altering the health knowledge and attitudes of young adults. The capacity of this approach to cause behavioral changes is still ambiguous and more research is necessary [7]. Thus, while it was found to enhance the voices of the marginalised, the ability of social media approaches to actual behaviour change is mixed, and more needs to be understood clearly on how and what makes the difference. This thesis aims to fill this gap through a systematic review. The research will explore the following questions:

(1)How does the use of algorithmic curation and support for the virality of short-video platforms contribute to how adolescents are exposed to mental health information?

(2)What are typical narrative and visual strategies in mental health shorts, and what impact does this have on message credibility and engagement?

(3)What is the correlation between exposure to short content, such as content, and subsequent change in the national incidence of adolescent mental health literacy, help-seeking behaviour, or the like?

2. Literature review and theoretical framework

2.1. The evolution of health communication in the digital age

Health communication has experienced a drastic change in its nature from a unidirectional type of service (television (TV), print), now created to involve back-and-forth conversation between the public and the sector of the health-care of the population, i.e., using the possibilities of interaction combined with the use of the Internet, digital and social networks [8]. The spread of the internet facilitates the evolution, has increased access to health information, and allowed for this turn from a physician centre approach, towards a more patient centered paradigm.

2.2. Definition of "short video" mode of dissemination

Influencers and content creators are the prevailing entities in the short videos ecosystem, which has a major influence on the sphere of dissemination. Compared to health professionals who are health experts, influencers often don't have formal qualifications [3,4]. Influencers could share health information based on informal/personal experience. Health professionals are challenged to ensure that proper content strategies are in place to both engage users while considering the integrity of the

health messages they are conveying to students and readers, and the long-term goals, such as improving a population's health outcomes, are being met, while addressing other short-term goals, such as to monetize or increase brand awareness.

Short-video platforms favor the development of an interaction culture because of some features, such as "duet" and "stitch" for remixing and re-interpreting content [9]. Those attributes can facilitate more direct interaction with videos, which leads to an interactive experience, and they can participate in the community. Thus, while these implementation features of interaction, such as use, facilitate forming a sense of involvement and connection between people, they are also not without risks [8]. The application of interactive functions notwithstanding, a person's engagement could escalate, provided one is mindful of posting information about his or her health on such sites and the relationship of this posting with the context within which one is posting the information.

2.3. Mental health of adolescent media use

Being digital natives, adolescents are consumed by such channels of digital ideas as TikTok, which is a central part of their life and identity. These reasons lead to the conclusion that the teenagers are least resistant to these negative effects, the relations with other children and external confirmation are of greatest importance in the development of the emotional life of a person and their self-esteem [10]. The possibility of hypertrophic impulsivity that may occur due to the ongoing maturation of the brain presumably exposes such users to greater risks of using the media in a manner that may impact their psychological state.

Recent studies on the impact of social media on adolescent mental health have demonstrated a fatal two-factor interaction between social media and adolescent mental health. There is substantial evidence that implicates problematic or habitual social media use, especially passive social media use, to adverse outcomes that comprise depression, anxiety and reduced satisfaction in life [11]. Problematic or habitual use is typically characterized as excessive, uncontrolled involvement with social media sites, which disrupts normal functioning. It is generally characterized by compulsive self-monitoring, inability to limit the use, and dependence on the interactions over the internet to manage moods [12]. These results were supported by a nationally representative study of Canadian youth - researchers concluded that problematic social media use correlates with a fall in positive measures of mental health, including self-efficacy and psychological well-being [11]. These findings have implications regarding the importance of studying patterns of social media use among adolescents and being aware of the relationship between social media use and mental health outcomes.

The active/passive aspect of social media plays a leading role in interpreting the outcome of social media on the mental well-being of teenagers. Active engagement in activities, even with friends, can contribute to forming connectedness and social supports [2] [13], which are protective factors concerning mental health. The quality of friendships (i.e., peer relations) is an essential predictor of positive mental health, and positive and strong, supportive relationships can help protect individuals against negative experiences online [10, 11]. Thus, passive consumption may prove detrimental and active participation in web society may even contribute to strengthening a feeling of social solidarity, accumulated strength as it washes off the bad after effects of web interaction. Thus, it is plausible that positive engagement in the healthy and active use of social media promotes positive outcomes among adolescents. Maintaining the need for this strategy-grounded social media among adolescents may improve social interaction at the expense of passive activities such as using social media as a consumer.

There is a difference in the use of social media between adolescents with internalizing disorders, that is, depression and anxiety. Some allocate greater time to such sites; engage in greater social comparison, and are more impacted by online emotional responses [11]. In instances that are frequent enough, the use of social media in adolescents that already have mental illnesses could lead to the same, this could involve the potential to harbor negative thoughts, such as rumination, and to lower self-esteem. The given discrepancy has become a point of attribution that can be considered in the approach to understanding and addressing the media use of adolescents to reduce the negative impact of this trend, especially among individuals with susceptible mental health.

2.4. Gaps in existing research area

The overall implications that social media has on the mental health of adolescents have been well documented [2,11]. One limitation in distinguishing the impact of the specific processes of spreading the short-video format is a great void. First is a lack of granularity related to understanding how the FYP algorithm shapes the health information ecosystem for adolescents. The above studies allude to algorithmic curation [8]. Contrastingly, few studies have investigated the procedure of algorithmic curation, this procedure is responsible for the exposure of health content, and information bubbles may emerge that are conducive to mental health [9,10]. Second, the role of the creator and audience is not well-studied, especially on short videos. Literature suggests that influencers are effective for promotion [1,11]. Still, there is a need for more research on credibility constructs with influencers versus certified professionals in the mental health space, particularly regarding how this impacts adolescent trust and behaviour [3]. Third, a deeper analysis is needed on how user vulnerability interacts with platform features. Studies indicate that adolescents with mental health issues use social media differently. The immersive design of short video platforms, along with social comparison and social feedback mechanisms, further influences this usage. Preliminary indications suggest that features can codify negation cycles for vulnerable users [4], although this mechanism still needs to be systematically tested in a broader body of papers in the literature. Therefore, this review does not inquire about whether social media influences mental health per se, but how architectures and communicative modes of short video platforms mediate this relationship in cases of adolescents.

3. Methodology

3.1. Systematic review protocol

This study shall follow the rules of the systematic literature review. The following guideline is informed by the Practical Exercise Intervention in Persons with SCI, with the Preferred Reporting Items to Systematic Review and meta-analyses (PRISMA) to ensure that the research can be complete and transparent when synthesizing the opinion piece. To capture an interdisciplinary approach that incorporates the areas of health, psychology and media studies, the search process will be carried out in various electronic repositories, such as PubMed, PsycINFO, Web of Science and Scopus. A systematic pool of keywords and combining relationships will be involved in search that will be able to converge to the following essential concepts; (short video) OR (tiktok) OR (reels) OR (douyin) AND (health communication) OR (mental health) OR (health information) AND (adolescent) OR (youth) OR (teen) AND (behavior) OR (impact) OR (effect). Peer-reviewed articles, reviews, and theoretical publications (English publications) published between 2015 and 2024 concerning the research subject will be added under the criterion (Adolescent populations and

short Video platforms). The time frame was chosen because it demonstrates the rapid evolution in these platforms, and a reasonable attention to the adolescents makes it explicit in formulating the research questions.

3.2. Analytical framework

The analytical framework in analyzing the selected literature would be defined by an integrated theoretical framework, propounded to help decode the mechanisms at work by the short video dissemination modes on adolescent behaviour. The Health Belief Model will provide a lens through which to examine perceived susceptibility and severity, and the benefits and barriers to addressing mental health issues using short video direct content [13]. Social Learning Theory will be applied to the study of the modelling by agents within these platforms of behaviour based on the propositions of influencers and peers. Additionally, concepts from the media study literature, especially Media Richness Theory, will be of importance in understanding and evaluating the effect of the multimodal, inmersive nature of short videos (and their combinations of video, audio, text, and interactive components) on the clarity of the message, the degree of engagement, and the learning potential associated with less rich media. This multi-theoretical approach is needed, given that the complexity of algorithmically-driven, creator-centric health communication is not accounted for in any one approach. This presents an opportunity to explore life that ranges from individuals' perceptions (Health Belief Model) to Social learning processes (Social Learning Theory) to the affordances that a particular medium offers (Media Richness Theory).

4. Expected outcomes and significance

4.1. Synthesis of findings

This review is expected to offer a subtle synthesis that correlates different short video modes of dissemination to individual behavioural outcomes for adolescents. In contrast, actively searched content may be accompanied by additional search-related help-seeking behaviour, but not necessarily appealing to the adolescent audience.Additionally, concepts from the media study literature, especially Media Richness Theory, will be of importance in understanding and evaluating the effect of the multimodal, inmersive nature of short videos (and their combinations of video, audio, text, and interactive components) on the clarity of the message, the degree of engagement, and the learning potential associated with less rich media. Therefore, the synthesis will lead to an evidence-based typology of interaction between platform architecture and creator strategy that differentially affects adolescent behaviour.

4.2. Recommendations to stakeholders

The synthesized findings will mean that one of them will rely on evidence through this review, and it will be targeted at the critical stakeholders of the field of adolescent health in digital media. The recommendations will be to the policy makers and practitioners working in the public health sector, on the manner in which a digital literacy curriculum can be formulated and developed to inform he adolescents of the necessity to possess an ability to subjectively analyze the source of health information knowledge of these Short-video formats and comprehend how the algorithms functions and how the adolescents can reliably spot lies.

Based on this review, this paper trecommend several measures that the system providers can implement to increase the ethical design of short-video platforms and reduce the risk to adolescent

mental health:

(1) Enhance transparency in recommendation algorithms to improve user and parental understanding of health content selection.

(2) Implement badges or verification systems for qualified health content creators to aid adolescents in identifying reliable sources.

(3) Integrate in-platform recommendations and emergency referrals, providing users exposed to harmful mental health content with pop-up resources, helplines, and professional services.

5. Conclusion

Changing health communication medium to short video in its curation improves health communication delivery to reach the adolescents efficiently. Whereas a previous study has addressed the efficacy of the overall screens about social media, a gap in the knowledge is present about the short video effect on the health communication of the adolescent about social media and, specifically, to short films. Hopefully, this review addresses this gap by highlighting the importance of the position of a content curator driven by algorithms, the interactivity between users receiving a health message and the role of a content maker. Hopefully, the charting of accessible results of the research will help to make explicit the mediator role that these platforms could potentially have in health communications between adolescents. The aim is to offer practical, evidence-based recommendations to policymakers, healthcare providers, and platform developers for creating healthier, more ethical short video environments, thereby enhancing adolescent health communication.

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