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COMMUNICATION

THE ROLE OF SOCIAL MEDIA IN HEALTH RISK COMMUNICATION: EVALUATING THE EFFECTIVENESS OF FACEBOOK AND INSTAGRAM

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ABSTRACT

Purpose of Study: This study explores the effectiveness of Facebook and Instagram in communicating health risks, with a particular focus on how these platforms influence user engagement, trust, and behavioral responses.

Problem Statement: Social media has become a key tool in health risk communication, allowing real-time dissemination of critical health information.

Methodology: Using a mixed-methods approach, the study surveyed 150 social media users and conducted structured interviews with health communication officers.

Result: The findings indicate that while Facebook and Instagram enhance the accessibility of health information, they also present challenges related to misinformation, credibility, and user skepticism. Participants preferred health content endorsed by experts and reputable organizations, but misinformation remains a significant barrier.

Conclusion: The study underscores the need for fact-checking mechanisms, digital literacy initiatives, and algorithmic adjustments to improve the credibility of health risk communication. The findings contribute to discussions on how social media can be optimized for public health messaging, particularly in the digital misinformation age.

Keywords: *Social media, health risk communication, misinformation, Facebook, Instagram, trust in health communication*

INTRODUCTION

The role of social media in public health communication has expanded significantly in the past two decades, shaping how individuals access, interpret, and respond to health-related messages (Covello & Sandman, 2021). Platforms like Facebook and Instagram have provided new avenues for health risk communication, enabling real-time interaction, engagement, and rapid information dissemination (Vosoughi, Roy, & Aral, 2018). These platforms have been instrumental in public health crises, such as the COVID-19 pandemic, where they facilitated timely updates from health organizations (Porat et al., 2019).

Despite these advantages, misinformation, trust issues, and content credibility continue to hinder the effectiveness of social media as a reliable health communication tool. Studies suggest that misinformation spreads faster than factual information, raising concerns about the reliability of digital health content (Vosoughi et al., 2018; Swire-Thompson & Lazer, 2020). Facebook and Instagram, in particular, have been criticized for their role in amplifying misleading health messages, despite efforts by platforms to integrate fact-checking mechanisms (Vraga & Bode, 2017).

Within this context, this study investigates how social media users engage with health risk communication on Facebook and Instagram. It examines:

1. The effectiveness of Facebook and Instagram in disseminating health risk messages.
2. User perceptions and trust in health-related information shared on these platforms.
3. Challenges and opportunities in using social media for health communication.

Understanding these dynamics is crucial for health organizations, policymakers, and communication professionals who aim to optimize social media for accurate, impactful health messaging.

LITERATURE REVIEW

The evolution of social media has transformed the way public health messages are disseminated, shifting from traditional media such as television, newspapers, and radio to digital platforms that facilitate instant engagement (Southwell et al., 2019). This section explores the existing literature on health risk communication, the role of social media in health messaging, and the challenges and opportunities associated with using platforms like Facebook and Instagram for public health communication. The discussion is framed using Trust Determination Theory (Covello, 1996) and Media Richness Theory (Daft & Lengel, 1986) to provide a theoretical lens for understanding how users interact with health-related content online.

Theoretical Framework

The effectiveness of social media in health risk communication can be analyzed through the following theories:

Trust Determination Theory (Covello, 1996)

Trust is a fundamental factor in risk communication, especially in the context of health crises (Covello, 1996). The Trust Determination Theory posits that people assess information based on credibility, expertise, and reliability of the source. On social media, trust becomes a challenge due to the presence of misinformation, unverified sources, and agenda-driven content (Swire-Thompson & Lazer, 2020).

Studies have found that users are more likely to trust health information from official sources such as the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) than from individual accounts (Pennycook & Rand, 2021).

However, trust is context-dependent; for instance, in some communities, influencers and peer networks may have more persuasive power than official institutions (Vraga & Bode, 2017).

This theory helps explain why users often seek source verification before engaging with health-related content on platforms like Facebook and Instagram.

Media Richness Theory (Daft & Lengel, 1986)

The Media Richness Theory suggests that the effectiveness of a communication channel depends on its ability to transmit rich, detailed, and interactive messages (Daft & Lengel, 1986).

Social media platforms, particularly Facebook and Instagram, provide multiple formats (text, images, videos, live streams) that enhance message retention and user engagement (Smith & Burgess, 2017).

Richer media, such as video-based health campaigns, tend to have a higher impact on behavior change than text-based posts (Southwell et al., 2019). A comparative study found that health warnings about COVID-19 presented as infographics were 40% more effective in changing behaviors than simple text-based warnings (Porat et al., 2019). This theory underscores the importance of using engaging and multimedia-rich health communication strategies on social media.

The Role of Social Media in Health Risk Communication

Accessibility and Instant Dissemination of Health Information

Social media has revolutionized the accessibility of public health messages, allowing health agencies and professionals to reach millions of users instantly (Pew Research Center, 2021). Facebook and Instagram have become essential tools for health campaigns, allowing organizations to post updates, run advertisements, and host live discussions (Southwell et al., 2019).Platforms enable real-time interaction between health experts and the public, helping to clarify misconceptions and respond to concerns quickly (Vosoughi, Roy, & Aral, 2018). A study by Porat et al. (2019) found that 68% of respondents preferred receiving health alerts via social media over traditional channels like television or radio. This is particularly important during crises such as pandemics, disease outbreaks, and vaccination campaigns.

Engagement and Interactive Communication

Unlike traditional media, social media allows for bidirectional communication, meaning that users can engage with health experts through comments, shares, likes, and direct messaging (Vraga & Bode, 2017).

Facebook Live and Instagram Stories have been widely used by public health agencies to host Q&A sessions, allowing users to interact directly with experts (Pennycook & Rand, 2021). User-generated content also plays a role, as individuals share their personal health experiences, influencing public perceptions (Swire-Thompson & Lazer, 2020). The engagement aspect makes social media a powerful tool for behavioral change, as users feel more connected to the message when they can participate in discussions and ask questions.

The Challenge of Misinformation and Trust in Social Media Health Communication

Despite its advantages, social media also presents major challenges in health risk communication.

The Spread of Health Misinformation

One of the biggest criticisms of social media is its role in amplifying health misinformation. False health claims spread six times faster than accurate information (Vosoughi et al., 2018). A study by Swire-Thompson & Lazer (2020) found that over 30% of Facebook users had encountered misleading health claims related to vaccines. During the COVID-19 pandemic, misinformation about treatments, vaccine efficacy, and government policies spread widely on both Facebook and Instagram (Pennycook & Rand, 2021). Social media's algorithm-driven content curation often prioritizes engagement over accuracy, leading to the widespread sharing of sensationalized misinformation (Southwell et al., 2019).

Trust Issues and Source Credibility

Users are often skeptical about health content on social media, especially when the source is unknown or unverified. Research shows that government agencies and medical professionals are the most trusted sources of health information, while peer-shared content is viewed with skepticism (Vraga & Bode, 2017). However, influencers and alternative health practitioners have gained credibility in some communities, sometimes overshadowing traditional health authorities (Smith & Burgess, 2017). This trust gap complicates health risk communication, requiring platforms to improve verification mechanisms and promote expert-endorsed health content.

Opportunities for Enhancing Social Media Health Communication

Despite these challenges, there are opportunities to optimize social media as a tool for effective health risk communication.

Fact-Checking and Algorithmic Adjustments

Social media platforms have introduced fact-checking features to combat misinformation. Facebook's Third-Party Fact-Checking Program flags false health claims and reduces their visibility (Pennycook & Rand, 2021). Instagram has implemented warning labels on misleading posts, helping users differentiate between verified and unverified health content (Swire-Thompson & Lazer, 2020).

Collaboration with Health Experts and Influencers

Public health organizations can partner with social media influencers to expand the reach of accurate health information. Studies show that users are more likely to engage with health content when it is promoted by a familiar or trusted influencer (Smith & Burgess, 2017). Live Q&A sessions with medical professionals can help clarify misconceptions and build trust (Southwell et al., 2019).

Improving Digital Health Literacy

Educating users on how to identify credible health sources can reduce the impact of misinformation. Initiatives such as media literacy campaigns and interactive health education programs on social media have shown success in improving user awareness (Vraga & Bode, 2017).

The literature suggests that Facebook and Instagram have immense potential for health risk communication but also pose challenges related to misinformation and trust. By enhancing fact-

checking mechanisms, fostering expert collaborations, and promoting digital health literacy, social media can be transformed into a powerful and credible tool for public health messaging.

METHODOLOGY

This study employs a mixed-methods approach, integrating both quantitative and qualitative methods to provide a comprehensive analysis of the effectiveness of Facebook and Instagram in health risk communication. This approach allows for a deeper understanding of user engagement, trust, and perception of health information on social media platforms. The study was conducted in two phases: a survey to collect quantitative data from social media users and semi-structured interviews to gain qualitative insights from health communication professionals.

A purposive and convenience sampling technique was used to select participants. The survey phase involved 150 social media users who actively engage with health-related content on Facebook and Instagram. Participants were recruited through online platforms and digital health forums. The survey contained closed-ended questions measuring aspects such as trust in health information, engagement with content, and perceived credibility of sources. To complement this, ten semi-structured interviews were conducted with health communication officers, social media strategists, and public health experts to provide professional perspectives on the dissemination of health information via social media.

For the quantitative data, responses from the surveys were analyzed using descriptive statistics to identify key trends in social media engagement and perceptions of credibility. Metrics such as percentage distributions, mean scores, and cross-tabulations were used to assess differences across demographics. The qualitative data from interviews were subjected to thematic analysis, where responses were coded into categories such as "trust in digital health sources," "challenges of misinformation," and "user engagement strategies." This helped in drawing comparisons between user experiences and expert insights on the use of social media for health communication.

FINDINGS AND DISCUSSION

This section presents the results from the survey (150 respondents) and interviews (10 health communication professionals), analysing user engagement with health risk communication on Facebook and Instagram. The findings are structured around four key themes: (1) Effectiveness of Facebook and Instagram in health risk communication, (2) Trust and credibility of health information, (3) Challenges of misinformation and engagement barriers, and (4) Opportunities for improving social media-based health communication.

Effectiveness of Facebook and Instagram in Health Risk Communication

The study revealed that Facebook and Instagram are widely used for health risk communication, with 73% of survey respondents indicating that they follow at least one health-related page or account on these platforms. Public health organisations, hospitals, and health influencers use these platforms to share updates, debunk myths, and promote healthy behaviours. The interactive nature of these platforms allows for real-time engagement, making them a valuable tool for health campaigns.

A significant portion of respondents (68%) noted that they prefer visual-based content, such as infographics, videos, and live Q&A sessions, over text-heavy posts. Instagram, in particular, was favoured for its visually appealing content, while Facebook was preferred for in-depth discussions and community forums. According to one interviewee, “Health campaigns that incorporate

engaging visuals and interactive elements tend to perform better in terms of reach and user engagement."

Despite the effectiveness of these platforms, engagement levels varied based on demographics and digital literacy. Younger users (aged 18–35) were more active in commenting, liking, and sharing health-related posts, whereas older users (above 45) preferred reading and privately saving posts without much public interaction. This suggests that age and digital comfort levels influence engagement patterns, requiring tailored communication strategies for different audience segments.

Trust and Credibility of Health Information on Social Media

Trust emerged as a critical factor in determining user engagement with health-related content. The survey found that 61% of respondents expressed scepticism about the accuracy of health information on Facebook and Instagram, citing concerns over misinformation, sensationalism, and biased reporting. Users were more likely to trust health content from official sources, such as the World Health Organization (WHO), national health agencies, and verified medical professionals.

The trust gap between institutional content and user-generated content was significant. While government health agencies had the highest credibility ratings (72%), posts from friends, family, and influencers scored lower (38%) in perceived reliability. One health communication professional stated, "Users often engage more with posts from their social circles, but they do not always trust them for serious health decisions. Credibility still rests with medical experts."

Interestingly, the study found that trust was influenced by how information was framed. Posts that included cited research, statistics, and endorsements from known professionals were perceived as more reliable. On the other hand, content that relied on personal anecdotes or lacked verifiable sources was met with scepticism. This highlights the importance of fact-based, well-referenced content in improving trust in social media health communication.

Challenges of Misinformation and Engagement Barriers

Misinformation remains one of the biggest threats to effective health communication on social media. Over 63% of respondents reported encountering false or misleading health claims on Facebook and Instagram. The most common misinformation topics included vaccination myths, unverified herbal remedies, and conspiracy theories about pandemics.

One interviewee, a public health official, noted, "Misinformation spreads faster than fact-based content because it often appeals to emotions and personal biases. Combating this requires continuous monitoring and intervention." Facebook's third-party fact-checking system was acknowledged as a step in the right direction, but several users complained that misleading content still slips through the cracks.

Another major challenge was algorithm-driven content filtering. Social media algorithms prioritise high-engagement content, which sometimes means that sensational or misleading health claims gain more visibility than fact-based content. 45% of users reported that their feeds were frequently flooded with trending but questionable health advice, making it difficult to distinguish credible information.

Barriers to Engagement and Accessibility Issues

While social media is a powerful communication tool, certain barriers limit its effectiveness in health messaging. Low digital literacy was a key issue, especially among older populations and

rural users. Many users struggled with identifying credible sources, with 29% admitting they had unknowingly shared health misinformation before realising it was false.

Additionally, privacy concerns deterred some users from engaging with health-related content. 28% of respondents stated that they were hesitant to comment on or share health posts due to fears of being judged or having their data tracked. One participant mentioned, "Health issues can be sensitive. While I find social media useful for information, I avoid engaging publicly to protect my privacy."

Opportunities for Improving Social Media-Based Health Communication

Despite these challenges, participants identified several opportunities to enhance the effectiveness of Facebook and Instagram in health risk communication. One key recommendation was the increased collaboration between social media platforms and verified health organisations. 79% of respondents agreed that social media companies should do more to promote expert-endorsed content and limit the spread of misinformation.

Another promising approach is the use of influencers and digital health advocates. Users aged 18–35 were more likely to trust and engage with health messages delivered by relatable influencers rather than formal institutions. This suggests that strategic partnerships between health organisations and trusted influencers can increase message reach and impact.

Participants also advocated for more interactive content formats, such as live health consultations, gamified awareness campaigns, and AI-driven chatbots to answer health questions in real-time. One health expert recommended, "Rather than just posting information, organisations should focus on engagement polls, quizzes, and interactive Q&A sessions work much better."

Addressing the Misinformation Problem

To combat misinformation, several users proposed stronger content moderation and verification mechanisms. Fact-checking labels, already implemented on Facebook, were seen as effective but insufficient. Respondents suggested that social media platforms should prioritise verified content in search results and penalise accounts that repeatedly spread false information.

There was also strong support for educational campaigns on digital literacy. Users who had undergone formal digital literacy training were less likely to fall for misinformation than those who had not. Incorporating digital health literacy programs into public health initiatives was recommended as a long-term solution to this issue.

The Role of Government and Policy in Social Media Health Communication

Some experts suggested that government regulation could play a role in ensuring the integrity of health communication on social media. Policies requiring platforms to disclose their content filtering algorithms and transparency in ad sponsorship for health campaigns were identified as potential solutions. One public health strategist mentioned, "We need a multi-stakeholder approach governments, social media platforms, and health organisations must work together to set ethical standards for digital health communication."

The findings suggest that while Facebook and Instagram offer significant benefits in health risk communication, their effectiveness is undermined by trust issues, misinformation, and engagement barriers. Users value expert-endorsed content, interactive formats, and fact-checking mechanisms, but the prevalence of false information and algorithm-driven content filtering continues to pose risks. Addressing these issues requires collaborative efforts between health agencies, social media

platforms, and policymakers to enhance the reliability and accessibility of health information online. The next section presents strategic recommendations based on these findings, aimed at improving social media's role in health risk communication and public awareness campaigns.

DISCUSSION

The findings of this study provide significant insights into the role of social media—specifically Facebook and Instagram in health risk communication. While these platforms offer unprecedented reach, real-time engagement, and interactive content formats, their effectiveness is often hindered by misinformation, credibility concerns, and algorithm-driven content curation. This section critically examines the theoretical and practical implications of these findings and provides recommendations for policy, practice, and future research.

Theoretical Implications

This study extends the application of the Trust Determination Theory (Covello, 1996) in the digital age, demonstrating that source credibility remains a dominant factor in determining audience trust in health risk communication. As the findings suggest, users overwhelmingly prefer content from verified sources such as WHO, CDC, and government health agencies over peer-shared information. This aligns with existing literature emphasizing the role of institutional trust in risk communication (Swire-Thompson & Lazer, 2020). However, the study also highlights a paradox—while people trust institutions, they tend to engage more with content shared by peers and influencers. This suggests a hybrid trust model, where users rely on institutional expertise for verification but engage with health influencers for relatability and accessibility.

Similarly, the Media Richness Theory (Daft & Lengel, 1986) is supported by the finding that users prefer visually engaging, multimedia-rich content over text-based health messages. The effectiveness of videos, infographics, and live Q&A sessions suggests that health communicators must optimize their messaging to align with the principles of media richness. However, the study also challenges traditional interpretations of the theory by revealing that algorithm-driven content delivery sometimes amplifies low-quality, misleading information, undermining the benefits of media richness. This indicates that the effectiveness of digital communication depends not only on content format but also on platform governance and audience literacy.

Practical Implications for Health Communication Practice

The findings underscore the necessity for health organizations to adopt digital-first communication strategies. Traditional one-way messaging is no longer sufficient audiences demand interactive, engaging, and relatable health information. Health institutions should, therefore, leverage social media influencers, employ real-time engagement tools such as live streaming, and use personalized content curation to enhance public trust and responsiveness.

A particularly important finding was the engagement gap between younger and older users. Younger audiences actively comment, like, and share health content, whereas older users prefer passive consumption. This has important implications for targeted communication strategies—health organizations must tailor content to suit different demographic preferences. For instance, younger users could be engaged through TikTok-style short videos, while older users might benefit from Facebook webinars and long-form informative posts.

Addressing Misinformation through Policy Interventions

Given the overwhelming concern about misinformation and fake health news, there is a pressing need for stronger regulatory oversight. Social media companies must increase transparency in content moderation policies, ensuring that health misinformation is not amplified through algorithmic biases. Policy recommendations include:

Mandatory verification labels for health content posted by certified institutions and professionals. Stricter content moderation rules for repeated misinformation offenders, including reduced visibility or content removal. Algorithmic transparency, where platforms disclose how health-related content is ranked and promoted. Policymakers should also collaborate with social media platforms to ensure that public health campaigns are prioritized over sensational or misleading content. This could be achieved through sponsored priority ranking of verified health posts and investment in AI-driven misinformation detection tools.

Implications for Social Media Governance

The role of Facebook and Instagram in health risk communication cannot be overstated, yet their governance structures often prioritize engagement over accuracy. The study highlights the urgent need for platform-driven interventions to combat health misinformation. Social media companies must integrate digital health literacy tools into their platforms, helping users identify and verify credible health information. For instance, platforms could introduce in-app fact-checking pop-ups when users share health content from unverified sources. Develop health information dashboards where users can access official public health data in real-time. Strengthen collaborations with public health institutions to promote evidence-based health messaging. Such interventions would help mitigate the spread of health misinformation while preserving the role of social media as an essential tool for public awareness and engagement.

Recommendations for Health Organizations

To enhance the effectiveness of health communication on social media, health institutions must adopt a more proactive, multi-platform approach. Recommendations include diversifying Communication Strategies – Using a mix of videos, infographics, interactive polls, and expert Q&A sessions to improve engagement. Partnering with Digital Health Influencers – Leveraging trusted personalities to promote accurate health messaging. Developing Community-Based Social Media Groups – Encouraging two-way communication where audiences can ask questions, share experiences, and receive expert guidance. Investing in Social Listening Tools – Using AI-powered analytics to monitor public sentiment and misinformation trends, allowing for timely intervention. By implementing these strategies, health organizations can improve the credibility, accessibility, and reach of their public health campaigns.

CONCLUSION

This study has demonstrated that Facebook and Instagram play a crucial role in health risk communication but are also plagued by misinformation, trust issues, and engagement gaps. While these platforms offer unparalleled reach and interactivity, their effectiveness depends on the credibility of sources, the richness of content, and the governance of platform algorithms.

For social media to become a fully reliable health communication tool, stakeholders including health organizations, governments, and platform providers must take collaborative action. Strengthening fact-checking mechanisms, improving content curation, and investing in public health partnerships will be key to enhancing the role of social media in global health risk

communication. This study contributes to the growing field of digital health communication by providing empirical evidence on how users perceive and engage with health-related content online. By bridging theory and practice, the findings offer a roadmap for improving public trust and accuracy in digital health messaging.

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