



A systematic review on social media utilization by health communicators in India: Insights from COVID-19 pandemic

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ABSTRACT

Social media has become a vital tool for facilitating health communications, particularly during emerging health crises such as the COVID-19 pandemic. This systematic literature review aims to synthesize evidence regarding the benefits and barriers associated with the utilization of social media by health communicators in India for disseminating health-related information. A comprehensive search of databases like CINAHL, Google Scholar, PubMed, and WHO Global Index Medicus databases yielded a total of 13 relevant studies. The narrative analysis revealed six key benefits attributed to the usage of social media by health communicators, including the widespread adoption of social media platforms for health communications, health communicators leveraging social media as an information source, fostering the development of protective behaviors, aiding prompt and transparent health communication, promoting participatory communication and empowerment, and employing social media as a tool for monitoring public sentiments and mental well-being. Conversely, challenges such as the proliferation of misinformation and communication inequalities were identified as significant barriers in social media health communications. While social media platforms hold immense potential in advancing crisis communication agendas, health communicators are advocated to adopt a multifaceted approach by prioritizing digital inclusivity, combating misinformation, and fostering synergetic collaborations between governmental bodies and community entities.

Keywords: social media, health communications, government, media, healthcare professionals, COVID-19

INTRODUCTION

The Role of Social Media in the History of Major Epidemics

The history of global disease outbreaks foregrounds the indispensable role of timely health communications and appropriate interventions. Health communications, encompassing interpersonal and mass communication endeavors aimed at enhancing individual and population health, span a spectrum of

domains including health professional-patient relations, information-seeking behaviors, adherence to clinical recommendations, risk communication, and public health campaigns (Ishikawa & Kiuchi, 2010). With the advent of digital media, there has been a significant impetus towards communicating health information through visual data, digital health campaigns, telehealth services, social media-driven health communications, disease tracing, etc.

Social media focuses on communications based on shared and community-generated content (Alivi et al., 2018; Swar & Hameed, 2017). The first study on health communications through social media during a pandemic dates back to the 2009 H1N1 pandemic; the outbreak of the H1N1 flu was first reported via social media (Chew & Eysenbach, 2010). Furthermore, according to a survey conducted during the outbreak of the MERS virus in 2012, 71.5% of respondents reported having obtained disease-related information primarily through social media (Kim & Yang, 2015).

The COVID-19 pandemic, which affected more than 768 million individuals globally and resulted in approximately 6.9 million fatalities as of August 2023, represents the largest global health emergency in the era of social media. After COVID-19 broke out and was transmitted to other countries outside of Mainland China, people turned to social media to know more about the virus (Yang et al., 2024); it was reported that there were 19 million mentions of COVID-19 across social media and news sites worldwide within just 24 hours (Molla, 2020). Social media's ability to ensure the swift flow of information, encourage global solidarity, and support public health efforts has been demonstrably effective across various health crises, from the H1N1 outbreak to the COVID-19 pandemic.

Health Communicators and Social Media

Health communicators, comprising individuals or entities disseminating health information and guidance during crises, represent a critical interface between public health initiatives and the general populace. Health professionals and governments adopted social media tools to contain and manage health crises such as the anthrax attack in various US cities in September 2001 and the 2015 California measles outbreak. Furthermore, social media helped major health organizations to establish active communications with the community during the Ebola (2014) and Zika (2015) virus outbreaks which were then applied to improving public health. Particularly, social media monitoring and prevention awareness messages helped accelerate risk control and disease management during the Zika virus outbreak (Gesser-Edelsburg et al., 2018).

A study evaluating the online interactions of nursing actors found that the nurses aimed to connect with political and healthcare leaders through social media to advocate for necessary improvements in response to the COVID-19 outbreak (O'Leary et al., 2021). The successful deployment of social media strategies by health communicators points out its key value in enhancing public health outcomes, signifying a transformative shift in how health information is conveyed and received in the digital age.

Social Media-Based Health Communications in India

India registered the third highest aggregate of confirmed COVID-19 cases on a global scale (World Health Organization, 2023). Despite being the second-largest social media market worldwide, access to the Internet and communication devices remains disparate across different demographic segments; only 46% of the population uses the Internet which is less than the worldwide average of 63% as of 2021 (World Telecommunication/ICT Indicators, 2023).

The reach of digital technologies remains mostly limited to male, urban, upper-caste, and upper-class individuals. The urban-rural digital divide exacerbates these disparities, with rural populations significantly underserved in terms of the Internet accessibility reflecting broader inequalities in digital infrastructure and purchasing power. Even though connectivity has improved in India with a notable digital growth rate of 13%, there is a staggering difference in the Internet usage in different parts of the country (Oxfam India, 2022).

During the COVID-19 pandemic, concerns persisted regarding the Indian government's approach to managing information flow, with critiques pointing to instances of the Internet shutdowns as politically motivated rather than aimed at controlling misinformation (Nazmi, 2019). This practice underscores broader challenges in combating fake news and misinformation, compounded by the dissemination of unverified health information by certain political figures (Mohan, 2020). Despite these challenges, initiatives such as the

'Mygov Corona' WhatsApp chatbot demonstrate collaborative efforts between the government and private sector entities to disseminate accurate health information to the public (Singh, 2020).

In light of persistent communication inequalities and the digital divide in India, it becomes imperative to scrutinize the dynamics of media-based health communication practices and their implications within the Indian context. Understanding these nuances is crucial for formulating inclusive and equitable health communication strategies that address the diverse needs of the populace.

Objective and Research Question

This review aims to analyze the usage of social media by health communicators in India during the COVID-19 pandemic, with a focus on identifying both the advantages and challenges associated with this mode of communication. Hence, the research question that this review investigates on is as follows:

What are the benefits and barriers associated with the utilization of social media by health communicators for COVID-related communications in India?

METHOD

Search Strategy

The systematic review adhered to the *Preferred Reporting Items for Systematic reviews and Meta-Analyses* (PRISMA) 2020 guidelines (Page et al., 2021). To identify relevant studies pertaining to the objectives of the review, a comprehensive search strategy was implemented across multiple databases, including CINAHL, Google Scholar, PubMed, and WHO Global Index Medicus.

The search strategy employed a combination of keywords and Boolean operators to capture studies focusing on the intersection of COVID-19, social media, and various health communicators in the Indian context. Specifically, the search terms included variations of "COVID," "COVID-19," "coronavirus," "social media," "SNS" (social networking sites), "India," and specific stakeholders such as "government," "journalist," "healthcare professional," and "health organization."

Inclusion and Exclusion Criteria

The inclusion criteria based on the *Population, Intervention, Comparison, and Outcome* (PICO) model comprised studies focusing on Indian population. The article specifically sought research that investigates the utilization of social media platforms by health communicators, comparing these strategies with other mediums used during the COVID-19 pandemic. The primary outcome of interest is the assessment of the effectiveness of social media usage by health communicators in increasing awareness regarding COVID-19 prevention measures among the Indian population.

Furthermore, we restricted our consideration to peer-reviewed journal articles, conference papers and case studies with full-text available in the English language. We specify the publication timeframe from December 19, 2019, marking the onset of the COVID-19 pandemic, to January 20, 2024, to gather the most recent and relevant literature.

Book chapters, meta-analyses, unpublished data, commentaries, series, editorial articles, and review papers were excluded. Additionally, studies that are not focused on the Indian population were excluded from consideration, as the review specifically aims to explore the dynamics of social media usage in health communication within the context of India.

Data Extraction

Data extraction was conducted systematically to gather pertinent information for addressing the research question. The extracted data were organized into tables to facilitate comparison and synthesis across studies as shown in **Table 1**. Key data elements included authors' names, publication dates, indexing, study aims, research design, sample sizes, demographic characteristics, and study results.

Table 1. Data extracted from the studies

No	Study	Indexed in	Aim	Study design	Sample size	Sample characteristics	Findings
1	Aggrawal et al. (2021)	ESCI, Scopus	To examine the psychometric implications and the interrelationship between the COVID-19 infodemic and the official COVID-19 bulletins	Cross-sectional, quantitative	5.6 million (national) and 2.6 million tweets (state-specific) during the first wave and 1.2 million tweets (national) from the second wave	Tweets from India during the first and second wave of COVID-19 pandemic	The government bulletins often adapted to the discourse on Twitter, highlighting the importance of aligning government communication with public concerns to tackle misinformation effectively
2	Balogun et al. (2023)	Scopus	To evaluate the use of Facebook by Indian hospitals for health promotion during the COVID-19 pandemic	Cross-sectional, quantitative	107 Facebook pages	Eligible Facebook pages belonging to 99 hospitals in Raipur, Chhattisgarh	Increased Facebook activity was noted, particularly for hospitals attending to COVID cases, which may have contributed to disease control
3	Darshan and Kalyani (2021)	Google Scholar, CNKI, DOAJ, Wanfang Data, ProQuest, EBSCO	To assess the social media usage of elected women Panchayati Raj representatives from India during the COVID-19 pandemic	Cross-sectional, qualitative	32 participants	Elected women Panchayati Raj representatives	Social media facilitated effective communication and leveraged awareness, involvement in development issues, and accountability, despite the digital gaps
4	Dhanashree et al. (2023)	Google Scholar, CrossRef, ReadCube, EBSCO, ProQuest, Portico	To analyze the effect of mass media on public during the COVID-19 pandemic	Cross-sectional, quantitative	384 participants	North Indians over the age of 10 years	Social media was the most used information source during the pandemic
5	Ganapathy (2022)	Emerald Insight, Google Scholar	To understand the risk communications and public responses on the Twitter page of Indian government	Cross-sectional, quantitative	20,000 tweets	Tweets extracted from the official Twitter page of the Government of India	Social media played a huge role in India's battle against COVID-19. Emotional responses should be consistently monitored for risk communications.
6	Kaur et al. (2021)	ESCI, Scopus	To explore how political leaders portrayed emotions on Twitter during COVID-19	Cross-sectional, quantitative	12,128 tweets	Tweets by 29 Indian political leaders	Positive emotions and trust were the most common sentiments expressed by authorities on Twitter
7	Kumar et al. (2021)	Google Scholar, CrossRef	To examine the digital interactions between pharmaceutical companies and Healthcare professionals (HCPs)	Cross-sectional, quantitative	407 participants	HCPs from diverse specialties from all over India	There was a substantial shift to digital channels for interactions among pharmaceutical companies and HCPs

Table 1 (Continued).

No	Study	Indexed in	Aim	Study design	Sample size	Sample characteristics	Findings
8	Mali et al. (2021)	ESCI, Scopus	To evaluate the usage of communicative governance tools to respond to public health crises	Cross-sectional, qualitative	Not applicable, as the study is based on a case study design	The case of the state government of Delhi in India	The Delhi government utilized various digital tools for information dissemination during the pandemic
9	Paul and Das (2022)	SCI-expanded, SSCI, Scopus	To assess how effectively the Indian government utilized social media during the first wave of the COVID-19 crisis	Cross-sectional, quantitative	3,390 tweets	Tweets from the official Twitter handle of Ministry of Information and Broadcasting, India	Media richness is positively correlated to citizen engagement through government social media (CEGSM) while the dialogic loop is insignificantly linked to CEGSM
10	Radhakrishnan et al. (2023)	SCI-expanded, Scopus	To assess the effect of internet and social media usage on COVID infection control practices.	Cross-sectional, quantitative	382 participants	Healthcare professionals from South India	The significant influence of social media and the internet on infection control practices was proved
11	Roy et al. (2021)	SCI-expanded, SSCI, Scopus	To examine the health promotion initiatives in India, with a specific focus on the governmental publicity on social media during the pandemic	Cross-sectional, quantitative	1,389 tweets and 15 interviewees	Tweets by the Ministry of Family Health and Welfare and interviewees from marginalized collectivities of India	A social media-focused health promotion campaign prevented the majority of people from having access to free, unbiased and understandable health information
12	Roy and Ayalon (2020)	SCI-expanded, SSCI, Scopus	To explore the role of volunteers in meeting the immediate needs of older adults using social media	Cross-sectional, quantitative	242 messages	Messages extracted from a pan-India group of volunteers on social media	The study highlights the innovative use of social media to connect volunteers with those in need during the crisis
13	Sharma et al. (2022)	ESCI	The health information-seeking behavior of healthcare workers (HCWs) in India	Cross-sectional, mixed method	250 participants	HCWs of a tertiary care hospital in North India	Social media was one of the most used sources by healthcare workers to access health information during the pandemic

Quality Assessment Analysis

Following the data extraction process, a quality assessment was conducted using the Joanna Briggs Institute (JBI) checklist for cross-sectional analytical studies and case reports as given in [Table A1](#) and [Table A2](#), respectively in [Appendix A](#) (JBI Critical Appraisal Tools, n.d.). To retain a broad scope of evidence, studies of lower quality were not excluded from the analysis. Instead, the findings were qualitatively integrated and examined through narrative analysis, as outlined by Popay et al. (2006).

RESULTS

Description of Studies

The initial literature search across four databases—Google Scholar, CINAHL, PubMed, and World Health Organization Global Index Medicus—yielded a total of 4,685 articles. Following a rigorous screening process, which involved the removal of 1,061 duplicate articles and exclusion of 982 studies based on language and title criteria, 2,642 articles remained for further evaluation. Subsequently, these articles were screened based on the specific health crisis under investigation and the geographic location of the study, resulting in the elimination of an additional 879 papers.

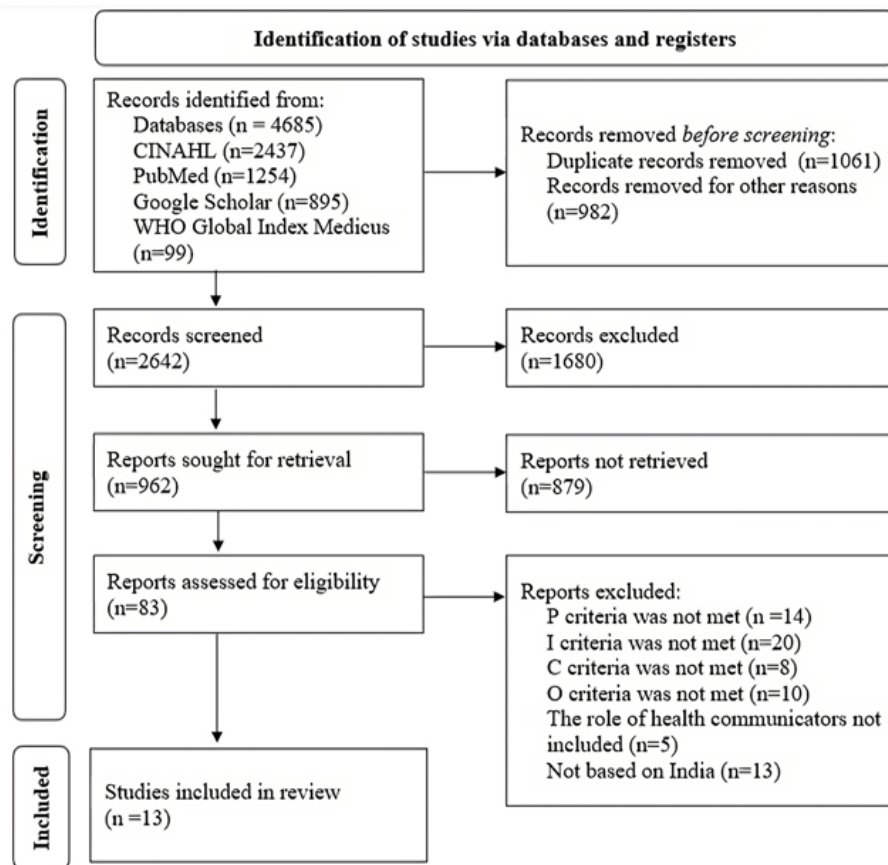


Figure 1. PRISMA flow diagram (Source: Page et al., 2021)

Upon thorough examination of the full texts, 83 papers were deemed ineligible for inclusion in the review. The primary reason for exclusion was a lack of focus on health communicators and the COVID-19 pandemic in India, which did not align with the scope of this review. Consequently, a total of 13 papers met the predetermined eligibility criteria and were included in the final analysis (see [Figure 1](#)).

Analysis of Results

The analysis revealed six overarching benefits regarding the utilization of social media by health communicators for COVID-related communications: facilitating a radical transition towards social media platforms, serving as a robust source of information for health communicators, catalyzing the development of protective behaviors and disease control strategies, enabling prompt and transparent communication, fostering participatory communication and empowerment, and functioning as a tool for tracking public sentiments to safeguard mental well-being. Conversely, challenges such as the proliferation of misinformation and communication inequalities were identified as significant impediments to effective health communication via social media channels. Among the important health communicators identified in extant literature are governmental bodies, journalists, diverse media platforms, and healthcare professionals.

A paradigmatic shift towards social media in crisis communication

The COVID-19 pandemic marked a prominent pivot towards social media platforms for crisis communication, driven by the necessity for health authorities to reach extensive audiences rapidly to mitigate transmission risks. Traditional press briefings, once the linchpin of government communication to the media and populace, transitioned to being broadcast live on official Twitter handles, accompanied by strategic hashtags (Ganapathy, 2022). This transition reflects a broader movement towards digital governance, as evidenced by the Delhi government's integration of social media and mobile technologies to communicate essential health infrastructure capacities, including hospital bed availability (Mali et al., 2021).

The pandemic era also witnessed the advent of a “phygital” communication approach within the pharmaceutical sector, blending physical interactions with healthcare professionals and digital information dissemination, thereby epitomizing an innovative communication paradigm (Kumar et al., 2021). Observations in the Raipur state of India underscored heightened Facebook activity among hospitals during the pandemic, resulting in effective disease management (Balogun et al., 2023). Concurrently, the journalistic landscape witnessed a dynamic shift towards online platforms, propelled by public apprehensions regarding the physical transmission of the virus through newspapers. It catalyzed leading Indian newspapers to augment their online presence and accentuate social media usage for wider content dissemination (Dhanashree et al., 2021).

While caregiving traditionally relied on physical proximity, the lockdown underscored the advantages and reach of long-distance caregiving during crises. A noteworthy initiative saw the formation of a pan-India volunteer group on social media platforms, aimed at assisting the elderly and caregivers by meeting their immediate needs. This innovative use of social media not only bridged physical distances but also fostered a spirit of community and acts of kindness during a global crisis (Roy & Ayalon, 2020).

Conclusively, the COVID-19 pandemic precipitated a radical shift in the landscape of health communication, with key health communicators including government bodies, healthcare professionals, the pharmaceutical industry, and the media, shifting towards social media platforms for effective information dissemination.

An information source for health communicators

The crucial role of social media as an information source for health communicators has been substantiated by empirical investigations. The usage of social media as an information source enhanced the knowledge, attitudes and practices of healthcare professionals (Radhakrishnan et al., 2023; Sharma et al., 2022). Notably, WhatsApp, Facebook, and Instagram emerged as the predominant social media and messaging applications utilized by healthcare professionals, as evidenced by multiple studies (Kumar et al., 2021; Sharma et al., 2022).

Regional disparities in the Internet usage among healthcare practitioners were also observed, with individuals from South India demonstrating a higher level of the Internet proficiency compared to their counterparts in West, North, and East India, respectively. Moreover, distinct preferences and patterns of online engagement were noted across regions, with healthcare professionals from West India displaying a keen interest in telemedicine and online learning initiatives. Conversely, those from East India exhibited comparatively lower levels of the Internet utilization for work-related purposes, with a considerable proportion lacking a discernible online presence (Kumar et al., 2021). Given the influential role of social media platforms in disseminating information to healthcare professionals and the public alike, they present a pathway for delivering training and raising awareness on pertinent healthcare issues (Radhakrishnan et al., 2023).

Development of protective behaviors and disease control

During a global disease outbreak, effective infection control practices are paramount in curtailing the spread of the disease. For instance, the Facebook engagement of hospitals in Raipur helped in lowering the COVID-19 cases (Balogun et al., 2023). In tandem, communicative governance practices implemented in Delhi, utilizing various channels such as websites and social media, have demonstrated potential in mitigating disease transmission (Mali et al., 2021). The substantial utility of social media provided knowledge enhancement and awareness of safety protocols for healthcare professionals while giving essential informational and social support to the public, thus leading to behavioral modifications (Radhakrishnan et al., 2023; Sharma et al., 2022).

Prompt and transparent communication

The role of social media in facilitating prompt and transparent communication between health communicators and the general populace during times of health crises is quintessential, as evidenced by scholarly investigations (Kaur et al., 2021). For instance, the temporal granularity of social media platforms enables the public to meticulously track how officials, including ministers, bureaucrats, and administrative

staff, change their messages amid the fluctuating disease severity while maintaining a consistent method of communication (Ganapathy, 2022). Moreover, a case study spotlighting Delhi—a multifaceted governance entity and the nation's capital—highlights the establishment of specialized communication channels via websites and social media platforms to ensure coherence and information symmetry across diverse strata of governance (Mali et al., 2021).

In the milieu of stringent social distancing imperatives, social media platforms and messaging applications have emerged as transparent conduits for healthcare professionals to engage with patients. A substantial majority (86.7%) of healthcare professionals across India used WhatsApp for patient consultations, thereby facilitating uninterrupted healthcare provision (Kumar et al., 2021). Another study delineates how political leaders in rural settings utilized social media adeptly to disseminate critical COVID-19 information, thus bridging the gap between service providers and local communities (Darshan and Kalyani, 2021).

Participatory communications and empowerment

Social media assumes a critical role in improving participatory communications, wherein both health communicators and citizens collaboratively contribute towards a common goal. This is epitomized in a study conducted among elected women representatives from villages who reported that social media use was advantageous for participatory communications with the villagers regarding COVID-19 and the constituency's development issues (Darshan & Kalyani, 2021). In the case of healthcare workers, social media was beneficial for them in assisting the public through social support groups and guiding people to find the nearest available healthcare facilities (Sharma et al., 2022). Another study illustrated that the government made extensive use of social media to promote plasma donation eligibility, and donors were informed that they would be provided a certificate of appreciation (Mali et al., 2021). Alternatively, a lack of engagement from the side of social media audience was noted in a study that analyzed Twitter pages of Indian government, exposing gaps in participatory communications (Paul & Das, 2022).

Moreover, social media has also encouraged acts of kindness and voluntary activities organized by Indian citizens that instigate social change. The first COVID-19 lockdown in India was announced with less than 4 hours' notice, leaving older adults without access to domestic help and paid caregivers. As traditional caregiving models ceased to function in the new normal, a group of volunteers took it to a popular social media website on which a group was formed to connect those in need of assistance with those able to offer required assistance (Roy & Ayalon, 2020).

Shifting to social media for crisis communications empowered elected women representatives in Indian villages (Darshan & Kalyani, 2021). The efforts of healthcare workers were acknowledged worldwide through social media coverage by praising them as 'Corona warriors' (Sharma et al., 2022). One of the major themes recorded from the official page of Indian government in April 2020 was honoring the contributions of frontline workers (Ganapathy, 2022).

The rise of misinformation

The exacerbation of misinformation and disinformation on social media during the COVID-19 pandemic caused stress, depression, and anxiety among healthcare professionals. On the other hand, the official social media accounts of government agencies played an important role in clarifying rumors and misinformation, providing a reliable source of information amid the crisis (Sharma et al., 2022). However, a study found that social media-centric health promotion efforts by the government in India failed to effectively reach lower socio-economic groups, contributing to misinformation and economic and social afflictions (Roy et al., 2021).

During a health crisis, users tend to share what they deem important rather than what is correct. Health communicators should analyze these reactions to recognize the topics or emotions people feel are significant and address those topics along with communicating facts so that the aforementioned user behavior can be directed constructively to combat misinformation (Aggrawal et al., 2021). The need for a structured and decisive flow of information from verified sources is crucial for risk control (Ganapathy, 2022).

Communication inequalities

The COVID-19 pandemic hampered global culture, power and health communication as it exerted a deleterious effect on economic and trade relations. However, the role of social media in mobilizing, controlling

and directing the flow of information for people to access at an equally rapid pace is remarkable (Ganapathy, 2022). Despite the utility of social media platforms in extending assistance and services to underprivileged segments, complexities emerge concerning a lack of awareness about digital interventions by the authorities, problems associated with accessibility and affordability of communicative devices and technologies, and lower levels of digital literacy. The detrimental result of such deprivation is being disconnected from crucial information, empowerment and awareness about the pandemic (Darshan & Kalyani, 2021).

A study gauging the governmental publicity on social media emphasized that there is a lacuna in health promotion initiatives. There was a disproportionate focus on political personas over essential health information dissemination, potentially undermining the primary intent of health communication during a pandemic. Additionally, the existing infrastructure, such as a free-to-air public broadcasting system (for both TV and radio), was not utilized adequately when it could have acted as a focal point for the drive to promote health. The study raises crucial questions as to why the Indian government did not explore this type of tried and tested approach from the previous crises in India and chose a primarily online, social media-centric health promotion campaign instead. Health promotion campaigns through participatory media platforms such as mass media should also be carried concurrently with social media to attain necessary engagement with vulnerable groups on critical health issues, particularly in the Indian setting (Roy et al., 2021).

DISCUSSION

The comprehensive analysis of various studies in this review elucidates the complex dynamics of social media utilization by health communicators during the COVID-19 pandemic in India, underscoring both its potential to enhance community engagement and its limitations due to pervasive misinformation and digital inequality. Empirical evidence establishes a positive correlation between social and mass media usage and the propensity for individuals to engage in voluntary protective behaviors, with social media significantly influencing healthcare professionals and the public to adopt preventive measures against COVID-19. This body of research also highlights the governmental recognition of social media's pivotal role in crisis communication, catalyzing enhanced strategies and innovations in healthcare delivery within the Global South. The review critiques the inadequacies of India's health communications in fostering participatory spaces crucial for COVID-19 awareness and community-based solutions, advocating for a more inclusive approach that prioritizes marginalized communities.

Health communication research extensively utilizes foundational health behavior theories such as the *Extended Parallel Process Model* (Rogers, 1975; Witte & Allen, 2000), *Protection Motivation Theory* (Maddux & Rogers, 1983), and the *Health Belief Model* (Becker, 1974). These theories suggest that a particular message or information can potentially influence behavioral development through fear appeal. Numerous studies have shown a positive correlation between the use of social media and mass media and an individual's intentions to engage in voluntary protective behaviors (Brony et al., 2024). This is further supported by the reviewed studies, which concluded that social media significantly contributed to behavioral changes in healthcare professionals, leading them to adopt various preventive measures to combat COVID-19.

Three articles in this review (Ganapathy, 2022; Mali et al., 2021; Roy et al., 2021) add to the growing body of knowledge on the integration of new media technologies into pandemic governance in the Global South. The governmental and institutional acknowledgment of social media's instrumental role in crisis communication catalyzed initiatives aimed at leveraging these platforms for enhanced communication strategies and healthcare delivery innovations. Prior literature suggests that the *Dialogic Loop* (DL) enhances citizen engagement through government social media channels (CEGSM) by facilitating bidirectional communication between government agencies and the public (Chen et al., 2020; Men et al., 2018). However, Paul and Das (2022) analysis of tweets revealed that only two dialogic features, namely mentions and hashtags, were frequently utilized in the context of India. Therefore, government agencies should adopt a more proactive approach by employing surveys or polls and providing timely responses to citizen inquiries during crises.

A crucial approach in the research related to communication inequalities is the *Structural Influence Model*, which postulates that communication inequalities partly explain the link between social determinants and health outcomes. An individual's structural location and social roles influence their engagement with and

reaction to media content (Viswanath et al., 2007). A study reviewed herein offers a novel intervention into official governmental COVID-19 communication strategies and enriches emergent scholarship by revealing how India's health information dissemination failed to establish participatory spaces essential for cultivating COVID-19 awareness and fostering community- and culturally-based solutions (Roy et al., 2021). A relevant approach in the literature is the *Culture-Centered Approach* (CCA) (Dutta et al., 2020a), which emphasizes communities at the 'margins of margins' as crucial loci for identifying health challenges and devising innovative solutions (Dutta et al., 2020b), suggesting that a predominantly social media-centric health promotion paradigm is insufficient for effective empowerment.

While caregiving has traditionally been linked to physical proximity (Baldock, 2005), a study reviewed in this context underscores the possibilities and extensive scope of long-distance caregiving aided by social media communities during a health crisis (Roy & Ayalon, 2020). Radhakrishnan et al. (2023) conducted a pioneering study on infection control knowledge, attitudes, and practices among healthcare professionals in South India, examining the Internet's role in shaping these practices. Despite past concerns regarding the suitability of social media for hospital use (James, 2016), a reviewed study suggests that hospitals should proactively explore the latent benefits of these platforms for health communication and patient engagement, especially during a health crisis (Balogun et al., 2023).

Nascent literature posits that the COVID-19 pandemic represents the first true social media infodemic, having significantly accelerated the spread of misinformation globally and fueling widespread panic and fear. Additionally, the reviewed studies highlighted a marked increase in misinformation and the accompanying fear and panic among health communicators. An important observation from a study in this review was that many healthcare professionals reported that they did not forward COVID-19-related messages without verifying the source, and only a small fraction admitted to forwarding unverified messages, highlighting the positive impact of the induction training provided to nurses before their deployment to COVID-19-designated units (Sharma et al., 2022). Thus, it is evident that social media literacy should be given considerable importance while training healthcare professionals in the midst of a health crisis.

The reviewed literature emphatically calls for a research agenda and policy-oriented deliberations aimed at unraveling the long-term effects of misinformation on mental health and healthcare practices. The societal challenges magnified by the pandemic—including socio-economic disparities, digital divides, and gender dynamics—demand a concerted effort towards inclusive policymaking, community support frameworks, and empowerment initiatives to mitigate these exacerbations.

LIMITATIONS

The study acknowledges a few limitations with possibilities for further research. All the studies reviewed adopted a cross-sectional design, providing only a snapshot of social media usage by health communicators during a specific period. Analyzing studies employing longitudinal designs could offer insights into the progression of social media use for health communications, particularly during a prolonged crisis as COVID-19.

The key health communicators focused for search strategy were governmental bodies and healthcare professionals along with minimal emphasis on journalists, caregivers and pharmaceutical companies. More health communicators and their social media practices should be analyzed for in-depth research. Most of the studies in the review were quantitative and future research could explore studies that use qualitative indicators beyond quantitative metrics. Some of the studies have small sample sizes which calls for further analysis of research focusing on large and diverse samples for generalizability.

CONCLUSION

The public sphere in the 21st century has undergone a radical transformation that stems from the adoption of online communication technologies (Merchant & Lurie, 2020). The role of social media emerges as pivotal in disseminating critical health information, reaching diverse stakeholders including healthcare workers, government agencies, journalists, and the general populace. The findings underscore the dualistic nature of social media as both a potent tool for health communication and a fertile ground for misinformation and

communication inequalities. The review emphasizes the need for equitable access to accurate information, collaborative efforts between government agencies and community organizations, and targeted support for marginalized communities.

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Declaration of interest: The authors declare no competing interest.

Data availability: Data generated or analyzed during this study are available from the authors on request.

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APPENDIX A

Table A1. JBI Joanna Briggs Institute checklist for quality assessment for analytical cross-sectional studies

Study	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8
Aggrawal et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Balogun et al. (2023)	Yes	Unclear	Yes	Yes	Yes	Yes	Yes	Yes
Darshan and Kalyani (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dhanashree et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear
Ganapathy (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kaur et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kumar et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes
Mali et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Paul and Das (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Radhakrishnan et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Roy et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Roy and Ayalon (2020)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Item 1: Were the criteria for inclusion in the sample clearly defined?

Item 2: Were the study subjects and the setting described in detail?

Item 3: Was the exposure measured in a valid and reliable way?

Item 4: Were objective, standard criteria used for measurement of the condition?

Item 5: Were confounding factors identified?

Item 6: Were strategies to deal with confounding factors stated?

Item 7: Were the outcomes measured in a valid and reliable way?

Item 8: Was appropriate statistical analysis used?

Table A2. JBI Joanna Briggs Institute checklist for quality assessment for case reports

Study	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8
Mali et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Item 1: Were the populations' demographic characteristics clearly described?

Item 2: Was the history clearly described and presented as a timeline?

Item 3: Was the current disease condition on presentation clearly described?

Item 4: Were the assessment methods and the results clearly described?

Item 5: Was the intervention(s) or treatment procedure(s) clearly described?

Item 6: Was the post-intervention status clearly described?

Item 7: Were adverse events (harms) or unanticipated events identified and described?

Item 8: Does the case report provide takeaway lessons?

