Critical Review: A Review of the Studies About the Usage of Social Media During the Covid-19 Pandemic

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Abstract

Since the coronavirus disease (covid-19) was declared a public health emergency of international concern by the World Health Organization in January 2020, it has led to the loss of millions of human lives and a global economic recession. Recently, there has been a recognized need for effective health communication via social media to deliver accurate information and promote pertinent behavioral change. Thus, this study provides a systematic review to explore what has been done, what conflicts exist, and what knowledge gap remains in terms of social media use during the covid-19 wave, indicating relevant communication strategies. This research is based on 76 relevant papers taken from searches on the Web of Science and Google Scholar. The analysis revealed that much of the literature confirms the positive effect of social media on information propagation and promotion of precautions in the control of covid-19. The spreading of rumors, especially about government performance, in social media is clearly of increasing concern. Currently, heated debate continues about the association between exposure to social media and public mental health. Another fiercely debated question is whether rumors are shared more widely than fact-checking information. Up to date, far too little attention has been paid to information disparities and vulnerable groups on social media.

Keywords

social media use, risk health communication, covid-19

Revisão Crítica: Uma Abordagem aos Estudos Sobre o Uso dos *Media* Sociais Durante a Pandemia Covid-19

Resumo

Desde que a doença coronavírus (covid-19) foi declarada como uma emergência de saúde pública de interesse internacional pela Organização Mundial da Saúde em janeiro de 2020, levou à perda de milhões de vidas humanas e à recessão económica global. Cada vez mais, é reconhecida a necessidade de uma comunicação em saúde eficaz através dos *media* online, que possa fornecer informações credíveis e promover mudanças de comportamento relevantes. Assim, este estudo faz uma revisão sistemática da literatura, para compreender quais os conflitos de posição que existem e que lacunas de conhecimento permanecem em termos de uso dos *media* sociais durante a primeira vaga de covid-19, bem como indicar estratégias de comunicação relevantes. Esta pesquisa recolheu 76 artigos relevantes através de pesquisas na Web of Science e no Google Scholar. A análise revelou que grande parte da literatura veio confirmar o efeito positivo dos *media* sociais online na propagação de informações e promoção de precauções durante

o controlo do covid-19. A propagação de rumores e a intervenção do governo nos *media* sociais têm aumentado as preocupações dos utilizadores. Atualmente, o debate continua sobre a associação entre a exposição aos *media* sociais e a saúde mental pública. Outra questão muito debatida é se os rumores são partilhados de forma mais ampla do que as informações verificadas e credíveis. Até agora, muito pouca atenção tem sido dada, nos *media* sociais, às disparidades e lacunas de informação e também aos grupos vulneráveis.

Palavras-chave
utilização de *media* sociais, comunicação de risco em saúde, covid-19

1. Introduction

The mysterious emerging pandemic threat of coronavirus disease (covid-19) has currently crossed seven continents worldwide. By November 2020, the coronavirus pandemic had infected up to 62,000,000 people and caused over 1,400,000 deaths (World Health Organization, 2020). Given the rapid development of mobile technologies, the investigation of social media use during a public health crisis is a constant concern within health communication. It is becoming extremely difficult to ignore the critical roles of social media platforms during a public health emergency, including the spread of timely information, addressing rumors, and bridging the public knowledge gap (Eckert et al., 2018). On the one hand, when faced with an unprecedented global health threat, more people prefer using social media platforms to receive timely news on the pandemic (Farooq et al., 2020). On the other hand, social media plays several positive roles during a lockdown in providing social support and raising public awareness (Saud et al., 2020). Moreover, authorities have widely utilized social media to handle public uncertainty, convey updated regulations, and earn public trust (Finset et al., 2020).

Taken together, since the covid-19 outbreak, effective health communication via social media has been recognized as a crucial factor for facilitating information propagation, promoting public preventive behaviors, and even saving lives. Up to now, recent discussions about health communication via social media in the context of covid-19 can be summarized into three aspects: (a) exploration of the characteristics of online information, including its scale, format, frequency, content, communicator, credibility, or impact (e.g., Rafi, 2020); (b) investigation of the user profile, such as demographic features, motivation, preference, engagement level or emotional expression (e.g., Apuke & Omar, 2020); (c) evaluation of the efficacy of social media-based health interventions by measuring what changes occur in terms of knowledge, awareness, beliefs, behavior and social norms (e.g., Malecki et al., 2021).

Although extensive research has been carried out, few studies draw on any systematic review. Hence, this paper aims to provide a systematic overview of the literature focusing on what has been done, what the trends will be, what conflicts exist, and what knowledge gaps remain in the domain of health communication via social media during the ongoing covid-19 pandemic. Then, it highlights the potential for social media to

impact the control of covid-19, learn lessons, and better understand the relevant communication strategies.

1.1. Theoretical Context

Health communication, health literacy, and social media's role in this context is a theoretical area growing widely in social sciences. Moreover, the pandemic situation has amplified the importance of this area of knowledge, which is undergoing rapid development. Until very recently integrated into a broader context of literacy and "knowledge" or "information" on health, the current approach is increasingly focused on the autonomy of individuals in dealing with their health and their family's. That is due to economic reasons, naturally, and the actual evolution of modern societies and their self-perception as individuals and within a community (Castells, 2002). Social media are the best example of this phenomenon. Until very recently integrated into a broader context of literacy and "knowledge" or "information" on health, the current approach is increasingly focused on the autonomy of individuals in dealing with their health and that of their family. That is due to economic reasons, naturally, and the actual evolution of modern societies and their self-perception as individuals and within a community (Castells, 2002). Social social media are the best example of this phenomenon.

Individual health and its daily management have never involved as much information as in present days. Large amounts of information about health and medicine are provided from a variety of sources — whether professional health sources, specialists of various types, public and private institutions, or groups of patients and/or consumers — through a plethora of information channels, both arising from the media and local or interpersonal sources, in interaction with doctors and other health professionals, family members, friends, work colleagues, and more. This constant flow of information encourages individuals to be responsible for their health and their family's daily (Kivits, 2004). At the same time, the media coverage of health-related issues implies that we should address this topic by relating studies on the sociology of health with studies on media and communication. Ishikawa and Kiuchi (2010) highlight that while health professionals have, historically, been the primary sources of medical and health information, the means of communication such as the internet have expanded and implemented the appearance of other sources of information aimed at the general public. Some researchers have stressed that the study of health communication, as well as health literacy, should be considered not only as a feature of the individual but also as a feature of the individual's interactions in her/his social and health contexts (Ishikawa & Kiuchi, 2010; Nutbean, 2006), where social media are the best example. The process of individual empowerment in health literacy development constitutes one of the major objectives of communication in health (Ishikawa & Kiuchi, 2010; Nutbean, 2006).

In this context, and to guide this literature review, the starting question we pose is whether the academic literature produced on this topic can reflect the growing importance of social networks in empowering citizens, on health literacy, particularly in a pandemic context.

2. Methods

2.1. Search Strategies, Inclusion Criteria, and Data Extraction

We reviewed articles published since the early stages of the covid-19 outbreak, including systematic reviews and original studies. The search was conducted using the search terms indicated in Table 1 on the Web of Science and Google Scholar database throughout November 2020. We looked for search terms in social media with covid-19-related health communication. We also searched the references of included articles to strengthen our work with, particularly pertinent studies. All selected articles were published in peer-reviewed journals, which makes it possible to trust the relevance, namely of the research methods and techniques used in the studies on which the articles are based.

Social media	Pandemic	Health communication
Twitter/Facebook/TikTok/Instagram /YouTube/Sina microblog/WeChat News/(Re)Tweet/Posts/SMS/MIMS New media	COVID-19 Coronavirus SARS-CoV-2	Health campaign/program Health intervention

Table 1 *Search terms*

As our primary focus in this review refers to social media use in the field of risk health communication during the covid-19 pandemic, we defined social media as mobile and interactive platforms where users can exchange, share or create ideas and content (Dollarhide, 2019). Moreover, risk health communication has been defined as the process regarding the exchange of information and risk management during a public health crisis to increase public awareness, protect public health and facilitate the propagation of preventive measures (Schiavo, 2013).

To be included, studies should (a) analyze the propagation of information related to covid-19 on social media platforms, or (b) discuss the characteristics of users or communicators on social media platforms during the outbreak of covid-19, or (c) assess the impact of covid-19-related health communication via social media platforms. Hence, some articles were excluded, such as articles investigating distance teaching via social media, discussing data track technologies, and highlighting racism or brand marketing on social media platforms. There were no limits as to language or method.

After removing irrelevant studies, we reviewed the keywords and abstracts of the selected articles to confirm their eligibility. Then, we extracted the descriptive data from the approved studies into tables, including title, type of article, publication date, language, country focus, methodology, and sample size. In addition, the main discussions and findings were broken down according to the five words that begin with the letter W (5Ws) in communication: on *which* social media platform, *who* communicates, communicates *what*, to *whom*, and *with what effect*.

3. Results

Primary literature search through the different databases totally yielded 106 relevant studies. Then, the data was cleaned to remove unnecessary and duplicated studies. Finally, 76 studies met our inclusion criteria, comprising 73 original articles and three reviews.

3.1. Descriptive Results

The data in Figure 1 indicates that recent trends have led to an increasing interest in using social media platforms in public health communication during the covid-19 pandemic. Of the 76 studies included, 71 are English, four are Spanish, and one is Portuguese.
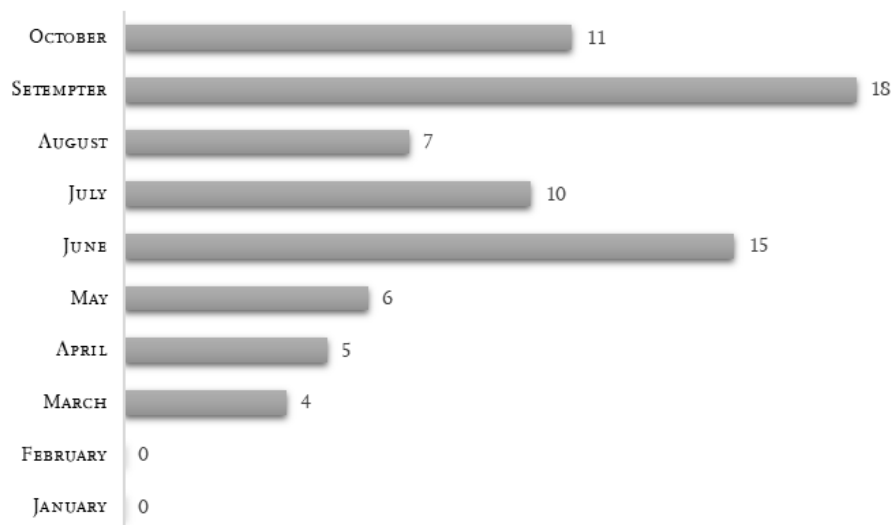

Figure 1 *Date of first publication online of 76 studies*

Regarding countries and social media platforms, the data in Table 2 shows that 32 of the studies were carried out at a global level, and the remaining studies selected a specific country or region as their subjects. In addition, among the included studies, 53 studies focused only on a specific social media platform, such as Twitter (19), Facebook (10), Sina microblog (nine), YouTube (nine), WhatsApp (four), TikTok (one), and WeChat (one). Other studies tend to do comparative analysis or give an overview of different platforms.

Social media focus	Country focus	
Mixed social media platforms (*n* = 22)	Global level	11
	Specific countries (*n* = 11)	America (two), Poland (one), China (one), Indonesia (one), Nigeria (one), Italy (one), Japan (one), Spain (one), United Kingdom (one), Iraq (one)
Twitter (*n* = 19)	Global level	10
	Specific countries (*n* = 9)	America (three), South Africa (one), Israel (one), Italy (one), South Korea (one), Chile (one), Indonesia (one)
Facebook (*n* = 10)	Global level	Two
	Specific countries (*n* = 8)	Papua New Guinea (one), America (one), Singapore (one), Spain (one), Philippines (one), South Pacific (one), Malaysia (one), mixed countries (one)
Sina microblog (*n* = 9)	Global level	Zero
	Specific countries (*n* = 9)	China (nine)
YouTube (*n* = 9)	Global level	Eight
	Specific countries (*n* = 1)	Spain (one)
WhatsApp (*n* = 4)	Global level	Zero
	Specific countries (*n* = 4)	Zimbabwe (one), Pakistan (one), Brazil (one), Indonesia (one)
TikTok (*n* = 1)	Global level	one
	Specific countries (*n* = 0)	Zero
WeChat (*n* = 1)	Global level	Zero
	Specific countries (*n* = 1)	China (one)

Table 2 *Social media focus and country focus of 76 studies*

Regarding methodologies, 30 studies employed a mixture of qualitative and quantitative methods, including content analysis, sentiment analysis, and network analysis. Qualitative and quantitative content analysis has been mainly applied because this is suitable to code trending themes and explore the association between communication content and goals. To further investigate the most frequently discussed topics, some studies focused on social media platforms by using various hashtags or keywords, such as "#coronavirus outbreak", "#COVID-19", "#prevention coronavirus", and so on, and 32 studies utilized quantitative methods to conduct an online survey and provide a descriptive analysis of public engagement. Qualitative methods have been employed in 14 studies to do thematic analyses or discuss content characteristics on social media platforms.

3.2. Synthesis of Main Discussions and Findings

Regarding communicators, 10 of the articles focused on the performance of governments and health authorities in social media. In tandem, several studies pointed out that public health agencies should take full advantage of social media and build a relationship with opinion leaders to dispel rumors and spread verified information during

the covid-19 crisis. Moreover, five studies pointed out the critical roles played by key influencers in social media platforms, such as the Indonesian President Joko Widodo, vloggers, athletes, and healthcare professionals. In this regard, some studies have found that opinion leaders in social media can contribute to the rapid dissemination of targeting recommendations and promote public engagement. Only two studies discussed the role of closed groups during the fight against covid-19.

Regarding online messages, 12 articles focused on rumors and misinformation diffusion on social media, involving conspiracy theories, vaccines, and 5G technology. The researchers attempted to analyze the scale, frequency, main topics, and impact of these rumors, and all discussed the challenges and strategies for controlling the spreading of rumors. In the meantime, they found that rumors have been dispersed more widely during the covid-19 pandemic and negatively affect public attitudes towards updated policies and vaccines.

The remaining studies provided an in-depth analysis of online information, discussing its number, format, frequency, comments, likes, and quality and tracing the trends of hot topics. Four studies focus on content in a specific language, including Turkish videos, Spanish videos, English, Chinese and Japanese twitters. Two of the studies developed an understanding of narratives of online messages, referring to the positive tone and collective pronouns. It is worth noting that more than 10 studies emphasized the critical roles played by hashtags during information propagation. Surprisingly, only one study noted the alarming messages posted on social media platforms. One study mentioned the existing irony on Twitter.

Regarding audiences, 14 of the included studies investigated the characteristics of users by conducting an online survey or analyzing data relevant to public engagement level. The central aims of these studies involve exploring the users' motivation towards social media use and information searching or sharing. In other words, audience analysis is helpful for health agencies and policymakers to generate engaging content, provide targeting recommendations, and satisfy public needs. Although people use social media platforms to search for information and seek help, only two studies focused on vulnerable groups on social media platforms.

Regarding effect and impact, nearly half of the included studies provided empirical evidence for the claim that social media platforms have obvious advantages for spreading scientific information, providing social support, raising public awareness, and promoting preventive behavior. However, some evidence found a close association between exposure to social media and greater depression and stress of users. Similarly, the debate about information overload and misinformation on social media platforms has gained new prominence in the fight against covid-19. Despite existing studies recognizing the effect of social media on public health attitudes, beliefs, and behaviors, few of the included studies were carried out based on behavioral models (see Appendix, Table A1, for a summary of the main findings of 76 studies).

4. Discussion

Generally speaking, a large volume of published studies describe social media platforms as an essential tool both for citizens and governments during the covid-19 crisis. Regarding the obvious advantages of using social media in the fight against coronavirus, it has been demonstrated that the openness and participatory nature, as well as the multimedia features of social media, could be contributing factors to deliver helpful information, facilitate interactive communication, enhance public understanding and influence health beliefs (Manganello et al., 2020). Moreover, existing studies also have found that information delivered across social media offers benefits in influencing public health awareness and ultimate behavior in the control of covid-19 (Bowles et al., 2020).

In this regard, several studies set out to examine what messages are more frequently disseminated and how user engagement levels can be increased on social media platforms. These findings are in line with earlier observations during a past global health emergency, which showed that in the context of the global epidemic, the influencing factors of effective health communication via social media include content type, content themes, hashtag use, and reliability of information source (Wong et al., 2017). In the meantime, these studies also confirm that virus transmission, precautionary measures, updated policy, and economy are the hottest topic discussed throughout social media during the covid-19 outbreak (Mutanga & Abayomi, 2020; Thelwall & Thelwall, 2020). Unlike the previous studies, one unexpected finding from our sample suggested that media richness is not an essential determinant for encouraging engagement behaviors. This result indicated that the public is more likely to pay attention to content practicality beyond entertainment when facing an unprecedented health threat (Chen et al., 2020).

Furthermore, existing studies strengthen the idea that social media is a valuable medium for government authorities to understand public opinions, create reliable information sources, dispel rumors and build trusted relationships with citizens (Sutton et al., 2020). These results are also in line with those of previous studies in past health emergencies, which indicated that governments could leverage the potential of social media to promote public communications and transform public services effectively (Kang et al., 2018). Even though government agencies are paying more attention to leveraging social media features during the fight against covid-19, researchers still note many limitations. For example, as public demand for information transparency and direct engagement has become much more significant, governments and health agencies should employ more communication strategies to promote citizens' engagement rather than releasing information on social media platforms (Chen et al., 2020; Eghtesadi & Florea, 2020).

Nonetheless, a great deal of recent research has emphasized the adverse effects of social media use during the covid-19 crisis. More quantitative evidence suggests that repeated exposure to social media is closely associated with more significant depression and fear (Pahayahay & Khalili-Mahani, 2020; Zhao & Zhou, 2020). However, other studies have mentioned that user anxiety and stress are associated with increased and decreased exposure to social media (Kligler-Vilenchik et al., 2020). This result indicates

that users can connect with others and decrease loneliness by sharing their stories while being affected by the negative feelings of other users. To date, the relationship between exposure to social media and public mental health under the context of the covid-19 threat has attracted conflicting interpretations.

Beyond that, it has been conclusively shown that repetitive alarming messages and exaggerated rumors can trigger adverse effects (Rao et al., 2020). Following the previous results, current studies have revealed that rumors were tweeted more frequently during the covid-19 crisis, substantively influencing users' knowledge and relevant behaviors (Bowles et al., 2020). In this respect, several investigations have begun to analyze the generation, transmission, and amplification of misinformation across social media platforms and examine their effects. These results are similar to those reached by previous studies, which showed that social media could be considered a primary channel for sharing and combating misinformation during global health crises (Galhardi et al., 2020). It has been found that the determinants influencing the impact of rumors include release time, users' interpersonal relationships, and content type (Bruns et al., 2020). More recently, literature has emerged that offers contradictory findings on sharing false information across social media during the covid-19 pandemic. Several studies have revealed that false information is less retweeted than evidence-based posts (Pulido et al., 2020). Conversely, some scholars believe that reliable information for combating these rumors circulates less consistently than original rumor posts through social media platforms (Rodríguez et al., 2020). Therefore, supervisors or anti-rumor accounts should reply to rumor sources timely and directly by using @ function on social media, as well as strengthening cooperation with opinion leaders to contribute not only to the rapid dissemination of science-based evidence but also to effectively control the scope of rumors (Wu et al., 2020).

These results combined provide essential insights into the use of social media during the control of covid-19. Concerning the existing knowledge gap, as social media has been considered accessible and convenient for users to express their feelings and get social support, there is very little published research on balancing the frequency of social media use and public mental health during the ongoing health crisis. Moreover, a systematic understanding of how individuals' online health literacy and cultural background influence the effectiveness of health communication via social media is still lacking. Although studies have recognized the feasibility of using social media to promote large-scale health campaigns for the population, information disparities have received scant attention in the research. Furthermore, there is a notable paucity of empirical research focusing specifically on the social media use of vulnerable groups during the covid-19 outbreak, such as people living in rural areas, low-income families, the elderly, and high-risk groups for covid-19.

5. Conclusion

Our study was designed for a detailed review of the research on social media use during the covid-19 pandemic, summarizing the existing conclusions and conflicts and finding the potential of social media for health campaigns against covid-19.

In reviewing the literature, many published studies consider social media the most utilized channel for individuals to obtain, generate and exchange information during this unprecedented health crisis. However, more significant efforts are needed to ensure the reliability of the information source. In addition, several studies have examined the covid-19-related online messages or misinformation that is more widely discussed across social media. These conclusions can be used to develop targeted health communication aimed at combating rumors and increasing user engagement. As people are far more likely to depend on social media when facing an unknown virus, current findings highlight the potential usefulness of social media platforms in providing emotional support and delivering social assistance. These findings imply that both the tone of messages and content type should be considered when developing health communication campaigns on social media.

The most prominent finding to emerge from this study is that governments and health agencies play a central role in improving information transparency, dispelling rumors, and raising public awareness on social media. In turn, using social media to trace public reactions can make policy processes more reasonable, contributing to improving health outcomes. Therefore, purposeful communication strategies should be used in government planning to attract more users on social media.

In the literature, the debate continues about the impact of social media use on public mental health. Another much-debated question is whether rumors are tweeted and retweeted more frequently than evidence-based information. A search of the up-to-date literature has revealed that studies about the information disparities and vulnerable groups are limited. Thus, it would be interesting to resolve the conflicts referred to by this research and bridge the existing knowledge gap in the future. Moreover, it will also be crucial for more researchers to collaborate across disciplines, including behavioral science and psychology, to investigate the influencing factors that are relevant to the effectiveness of covid-19-related health communication via social media.

Our project was limited in several ways. First, the most significant limitation lies in the fact that we could not conduct a meta-analysis to compare or evaluate the impact of different social media platforms. Secondly, the study did not compare the data on the research status in the corresponding period in past global epidemics, such as ebola and Mers-CoV. In this respect, a further systematic review comparing studies on covid-19 with past global health crises would be worthwhile. Finally, our study would have been enriched by a search of relevant studies in more databases. Therefore, future reviews covering a broader range of studies could shed further light on health communication via social media during the covid-19 wave.

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Appendix

Key findings		Study
	Governments and health agencies Effective health communication delivered through government authorities across social media platforms is crucial to providing reliable information sources, combating rumors, and promoting public engagement during the control of covid-19. Therefore, governments should leverage the potential of social media for connecting with citizens beyond propagating information.	Chen et al. (2020), Eghtesadi and Florea (2020), Kamiński et al. (2021), Manganello et al. (2020), Raamkumar et al. (2020a), Raamkumar et al. (2020b), Rao et al. (2020), Sutton et al. (2020), Pérez-Escoda et al. (2020), Pena-y-Lillo (2020)
Communicator	*Influencers* The impact of opinion leaders who have many followers on social media platforms is higher in delivering information and affecting public awareness. However, much of their posts only provide entertainment rather than helpful knowledge. Thus, governments should strengthen cooperation with key influencers to facilitate information propagation and dispel misinformation.	González Romo et al. (2020), Ngai et al. (2020), Prayoga (2020), Yin, Xia et al. (2020), L. T . Zhang et al. (2020)
	Others Many users have been using social media to deliver information and are more engaged in generating content during the covid-19 crisis, which could be beneficial to the control of covid-19 worldwide. It is imperative to focus on the impact of youth and women who participate in information generation actively throughout social media during the wave of covid-19.	Docimo et al. (2021), Dwyer and Minnegal (2020), López-Carril and Anagnostopoulos (2020), Mohamad (2020)

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What communicates	*The characteristics of online messages* During the wave of covid-19, the main topics discussed most frequently across social media include virus transmission, vaccination, preventive measures, updated policies, and economic news. The emotional tone, hashtags, and the reliability of online messages are considered crucial determinants in influencing public attitude and user engagement levels. Several studies have revealed that online messages positively influence bridging the knowledge gap and promoting public behavioral changes. In addition, it has been shown that high-quality content can achieve a greater number of retweets.	Abd-Alrazaq et al. (2020), Ataç et al. (2020), Basch et al. (2020), Dutta et al. (2020), El-Awaisi et al. (2020), García and Majuelos (2020), Hernández-García and Giménez-Júlvez (2020), Kamiński et al. (2021), Lázaro-Rodríguez (2020), Leelawat et al. (2020), L. Li et al. (2020), Y. Li et al. (2020), Lu et al. (2020), Ma et al. (2020), Mohamad (2020), Mutanga and Abayomi (2020), Orduna-Malea et al. (2020), Ruffer et al. (2020), Schwenk et al. (2020), Szmuda et al. (2020), Thelwall and Thelwall (2020), Trajkova et al. (2020), Wicke and Bolognesi (2020), Yin, Lv et al. (2020)
	Rumors and misinformation The spreading of rumors is increasing at an alarming rate, including about covid-19 vaccination, 5G technology, and other conspiracy theories. It has led to public depression and anxiety and exerted a negative influence on public precautionary behavior. The key factors influencing the impact of rumors include release time, content type, and communicators' interpersonal relationships. There is an urgent need to address the problems caused by exaggerated rumors and false information on social media. Here, government agencies and opinion leaders should shoulder more social responsibilities and put forward more targeted strategies. Public online health literacy should be improved.	Bowles et al. (2020), Bruns et al. (2020), Cinelli et al. (2020), Galhardi et al. (2020), Khosla and Pillay (2020), Kouzy et al. (2020), Malhotra (2020), Pulido et al. (2020), Rodríguez et al. (2020), Rovetta and Bhagavathula (2020), Viswanath et al. (2020), Wu et al. (2020)
	Alarming and reassuring messages During the early stages of the covid-19 outbreak, there was a high volume of alarming messages about virus transmission, prevention, and the economy on Twitter. In the following weeks, this gave way to gradually increased reassuring messages. The tone of alarming and reassuring messages exert influence on public attitude. Thus, it is vital to balance the alarming tone by delivering more messages of reassurance in order to mitigate public depression and uncertainties when facing the unknown virus.	Rao et al. (2020)
	Others Irony widely disseminated across social media platforms present personal expressions and attitudes towards the social distance.	Vicari and Murru (2020)
To whom	*Audience profile* Users are more likely to depend on social media to search or share information during an unprecedented health crisis. The main motivations behind social media use involve obtaining scientific knowledge, maintaining social interaction, and expressing personal feelings.	El-Awaisi et al. (2020), Glowacki et al. (2021), Igartua et al. (2020), Islam et al. (2020), Kligler-Vilenchik et al (2020), Kim (2020), Q. Li et al. (2020), Liao et al. (2020), Murri et al. (2020), Riehm et al. (2020), Rovetta and Bhagavathula (2020), Saud et al. (2020), Szmuda et al. (2020), Yang et al. (2020)
	Vulnerable groups During the covid-19 crisis, health communication efforts targeted to persons with diabetes on Facebook were positive. The videos aimed at providing specific information to dental practitioners exert a positive influence.	Isip-Tan et al. (2020), Yüce et al. (2021)

	Positive impact Online messages, interactive activities, and better government performance on social media positively affect the health outcomes surrounding the control of covid-19. Exposure to social media is beneficial to mitigate loneliness.	Ahmad and Murad (2020), Azizan et al. (2020), Burzyńska et al. (2020), Obi-Ani et al. (2020), D. Zhang et al. (2020)
Impact	*Negative impact* The contradictions between public officials' responses and individuals' responses on social media can cause public fear and breach of trust. Misinformation, information overload, and conspiracy theories have an adverse effect on public attitude and behavior around the control of covid-19. Additionally, it has been shown that exposure to social media is associated with public depression.	Ahmad and Murad (2020), Manganello et al. (2020), Pahayahay and Khalili-Mahani (2020), Rao et al. (2020), Sasaki et al. (2020), Zhao et al. (2020), D. Zhang et al. (2020)

Table A1 *Summary of key findings of 76 studies*

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