

# A Systematic Review on Social Media Health Communications and Behavioural Development among Indians in the COVID-19 Context

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Received: December 5, 2023

Accepted: January 16, 2024

Online Published: January 30, 2024

doi:10.11114/smc.v12i2.6585

URL: <https://doi.org/10.11114/smc.v12i2.6585>

## Abstract

Social media holds enormous power in directing the flow of health information during a health crisis and can tap into the individual and collective consciousness to make behavioural improvements. Being the third country with the highest number of COVID-19 cases reported worldwide, the magnitude of the pandemic was immense in the Indian context; timely health communications that prompt individuals to adopt preventive measures were crucial in the process of risk control. This systematic review consolidated evidence on the effect of COVID-related social media communications on the development of protective behaviours among the Indian population. A comprehensive search of PubMed, Scopus, Google Scholar and CINAHL yielded 11 studies highlighting six themes related to social media and protective behaviours. The themes associated with the positive impact of social media include catalysing awareness, shaping psychological responses and perceptions at an individual level, behavioural changes at a community level and social media as the most influential media source for behavioural improvements. The negative effects comprise misinformation and disparities that emerge from social media health communications.

**Keywords:** social media, COVID-19, India, behaviour, risk communications, health communications, emergency preparedness, public health

## 1. Introduction

### 1.1 Perceptions and Behavioural Intentions

The COVID-19 (2019) virus which infected over 768 million people worldwide with a death toll of around 6.9 million lives as of August 2023 is the first global health crisis of such a massive scale in the age of social media. Cumulatively, India recorded the third-highest number of confirmed COVID-19 cases globally (World Health Organisation, 2023). The most exigent requisites of risk control during a global health crisis are the immediate dissemination of health information and sustainable behavioural changes to cope with the emerging crisis. Health-protective behaviours can be defined as any behaviour performed by an individual, despite of his or her perceived or actual health status, to safeguard, promote, or maintain one's health, whether or not such behaviour is objectively beneficial toward this end (Harris & Guten, 1979). In the context of the COVID-19 pandemic, social distancing, wearing a mask or protective devices, practising hand hygiene and vaccination were the most recommended health-protective behaviours.

Many studies have proved that social media and mass media usage are positively related to an individual's voluntary protective behavioural intentions (Lin et al., 2020; Liu, 2021; Mahmood et al., 2021). In particular, social media can be used as an essential tool in shaping people's perception of risk, resultant decision making and behavioural changes (Ahmad & Murad, 2020; Oh et al., 2020; Alivi, 2023). Self-relevant emotions such as fear and anger were rife on social media posts during the 2015 MERS outbreak (Song et al., 2017). Likewise, fear and anger were consistently expressed in tweets during the Ebola outbreak (Ofoghi et al., 2016). The Protection Motivation Theory suggests that the threat perceptions and coping appraisal of an individual lead to behavioural intentions (Rogers, 1975). Conversely, the inverted U-shaped Fear Drive Model demonstrates that a moderate level of fear can instigate a motivational state for adaptive coping behaviours, but when fear levels are too low or high, individuals may not attend to or avoid such behaviours (Janis, 1967).

Fear appeals or scare tactics are frequently used to motivate behavioural change. There are several health behaviour theories such as the protection motivation theory (Maddux & Rogers, 1983), extended parallel process model (Rogers, 1975; Witte & Allen, 2000), health belief model (Becker, 1974) etc., that are based on fear appeal. These theories suggest

that the fear of a threat instigates behavioural changes in an individual. Such theories were collectively termed “fear appeal approaches” in Stolow’s work. His study raises a concern that fear appeal approaches used in COVID-19 risk communications can be ineffective in altering one’s behaviour because it could lead to negative reactionary behaviours by aggravating stressors associated with the pandemic (Stolow et al., 2020).

### *1.2 Social Media for Social Change*

Both mass media and interpersonal communication channels are involved in the diffusion process of adopting new ideas and practices for social change (Rogers, 2003). Correspondingly, social amplification of risk framework posits that the portrayal of different aspects of hazard events in mediated sources interact with psychological, cultural, social and institutional processes that can potentially attenuate or amplify risk perception and in turn shape people’s behaviour (Kasperson et al., 1988). During the abrupt outbreak of a crisis, it is the process of communication that holds society together. The history of pandemics is also composed of the tension between human beings and the need for social interaction as it restricts movements and human connections; during an emerging crisis, we use communication technologies to sustain relational aspects.

Previous studies prove that health literacy is not only an individual skill but also a distributed resource that is available within a person’s social network (Edwards et al., 2015). Furthermore, perceptions of stronger online social support on social media are associated with greater well-being and pro-social behaviour. Social networks provide spaces to share opinions, garner information, collect history, and reframe questions during the progress of a health-related discussion (Starlard-Davenport et al., 2016). Therefore, individuals adopt the attitudes or behaviours of others in the social network with whom they communicate (Burt, 1987).

### *1.3 Social Media Usage by Health Communicators for Behavioural Improvements*

Studies suggest that traditional frameworks of healthcare can be delivered differently through social networking sites, which can potentially transform the relationship between patients and healthcare professionals, and can bring about health behaviour changes (Syed-Abdul et al., 2016). Both social media users and medical professionals have acknowledged that social media is an ideal medium for communicating health information and promoting healthcare (Jha et al., 2016; Thackeray et al., 2012). For health communicators, social media is instrumental in building crisis management systems as it already has an active user population and can reduce the cost involved in the development of traditional crisis management systems. Therefore, the benefits of using social media for health communications during a crisis include free and direct communication among users, communication between health communicators and users, and efficient information dissemination (Crowe et al., 2011).

Social media promotes awareness and preventive behaviours against diseases (Gao et al., 2020). Good health communications could facilitate the public in dealing with uncertainty and fears, implement epidemic preventive compliance, and make necessary behavioural changes in the face of a crisis (Finset et al., 2020). In the context of the COVID-19 pandemic, mass media and social media played a central role in disseminating information and increasing awareness for public health solutions such as wearing a mask, keeping distance from each other, hand washing, and social media distancing (Bedford et al., 2020).

This review attempts to garner evidence on how health information on social media leads to health behaviour formation. It also evaluates how this process differs according to one’s accessibility and/or usage of social media. India is the second-largest social media market in the world with around 639 million users. However, 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). Evaluating disparities that could arise from this process of information flow and behaviour change can expose the gaps in the dissemination and consumption of health information on social media so that health communicators can better align their efforts with the information needs of the general public. It also gives an understanding to social media users in general about the psychological implications of the health information they consume on social media.

### *1.4 Objective and Research Question*

This review aims to synthesise studies focusing on the influence of social media health communications related to COVID-19 on the development of health-protective behaviours among the Indian population. Therefore, the key research question investigated in this study is proposed as follows:

RQ: What is the impact of social media health communications regarding COVID-19 on the development of health-protective behaviours among the Indian population during the pandemic?

## **2. Method**

### *2.1 Search Strategy*

The systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)

2020 guidelines (Page et al., 2021). Studies relevant to the review's objectives were retrieved from PubMed, Scopus, Google Scholar and CINAHL using the following set of terms: "(COVID) OR (COVID-19) OR (Coronavirus) AND (Social media) OR (SNS) AND (India) AND (Behaviour) OR (Preventive measures)".

### *2.2 Inclusion and Exclusion Criteria*

The inclusion criteria for this study followed the PICO (Population, Intervention, Comparison and Outcome) model. The population under consideration is the general public in India and the intervention is health information on social media regarding COVID-19. Health communications using mediums other than social media are evaluated for comparison. The desired outcome is the adoption of health-protective behaviours. Peer-reviewed studies with full text available in the English language were included in the review.

Since the COVID-19 pandemic broke out on 19 December 2019, this review considers original studies published from the aforementioned date till 12 August 2023. Book chapters, abstracts from conferences, meta-analyses, unpublished data, commentaries, series, editorial articles, case reports and review papers were not considered.

### *2.3 Data Extraction*

Important data pertaining to the study question were rigorously gathered and collated for comparison and synthesis of the studies. The authors, publication date, purpose, study design, instrument, sample size, demographic information, and outcomes were included in these data (See Table 1).

Table 1. Data extracted from the studies

Author/s	Aim	Design	Method	Sample size	Sample	Findings
Bala et al., 2021	Social media and protective behaviours, the effects of cyberchondria and information overload	Cross-sectional	Survey	767	18 years of age or above, from Imphal, Manipur, India	Social media use for information-seeking leads to behavioural changes and is mediated by cyberchondria and information overload
Chouhan et al., 2020	Social media for health safety based on awareness and behavioural improvement	Cross-sectional	Survey	1600	Social media users from India	Social media use has a beneficial impact on the public's knowledge of behavioural improvements and public safety.
Dhanashree et al., 2021	The influence of mass media on North Indian population during the COVID-19 pandemic	Cross-sectional	Survey	384	Above 10 years of age, from North India	The use of the internet/social media was the highest, followed by TV news. Particular attention should be given to combating misinformation.
Dkhar et al., 2020	The knowledge, attitude and practices regarding COVID-19 among social media users in Jammu and Kashmir, India.	Cross-sectional	Survey	1574	Social media users above 15 years of age from Jammu and Kashmir	The participants had good knowledge, a positive attitude, and sensible practices regarding COVID-19. Social media was the major source of information for the population.
Bala et al., 2022	Awareness about self-care and preventive measures related to COVID-19	Cross-sectional	Survey	517	People across Indian states	Social media served as the fastest route to increase people's awareness of information dissemination regarding protective behaviours.
Lahiri et al., 2021	The relationship between preventive behaviours and constructs such as threat perception, response efficacy, and self-efficacy	Cross-sectional	Survey	2,646	Adult users of social media in India	The formulation of precise risk communication strategies to enhance perceptions related to threat appraisal and self-efficacy could result in the development of preventive practices.
Mir et al., 2021	Factors influencing attitudes and intentions of the Indian population to take up COVID-19 vaccinations.	Cross-sectional	Survey	254	Indian population	The perceived benefits, social norms, and trust were strongly linked to people's attitudes towards COVID-19 vaccinations while risk perceptions and social media
Rai et al., 2022	Social media advertisement for overcoming the COVID-19 pandemic in India.	Cross-sectional	Mathematical model	Global population	Global dataset calibrated with the Indian population	Effective implementation of non-pharmaceutical intervention strategies can lower the basic reproduction number below unity
Tiwari et al., 2021	Social media advertisement and local awareness for controlling COVID-19 in India.	Cross-sectional	Mathematical model	Global population	Global dataset calibrated with COVID cases in India.	Global information on social media and local awareness is effective in risk control
Tolia et al., 2022	Factors contributing to the lower vaccination uptake in Gujarat, India.	Cross-sectional	Semi-structured interviews	44	People from Gujarat, India	The fear of side effects resulting primarily from fake news and misinformation on social media influences vaccine hesitancy
Yadav & Sagar, 2023	Public sentiment on COVID-19 vaccines and COVID Appropriate Behaviour (CAB).	Cross-sectional	Text mining	115,000	Tweets from Indians on Twitter	The identified themes are social media adaptivity, lack of a knowledge-providing mechanism, perception of vaccine safety measures, healthcare infrastructure capabilities and fear of coronavirus.

#### 2.4 Quality Assessment Analysis

Data extraction was followed by a quality assessment utilising the Joanna Briggs Institute checklist (JBI, 2020). To avoid

limiting the evidence, low-quality studies were not eliminated from the analysis. The results were qualitatively synthesised using narrative analysis (Popay et al., 2006).

### 3. Results

#### 3.1 Description of Studies

The literature search retrieved 3782 articles from four databases, namely PubMed, Scopus, Google Scholar and CINAHL. In the next step, 1169 duplicates and 1351 studies were removed. Studies that did not meet the eligibility criteria of language and availability of full text were eliminated. Articles that did not assess the role of social media in the context of the COVID-19 pandemic were also excluded. The remaining 1262 articles were screened based on the research focus, which is social media and protective behaviours and the location of the study, India. The full text of the remaining 457 articles was read and 364 papers were found to be ineligible mainly due to a lack of relevance in regard to the PICO elements. The search resulted in 93 papers, of which 11 papers were considered eligible for the systematic review (See Figure 1).

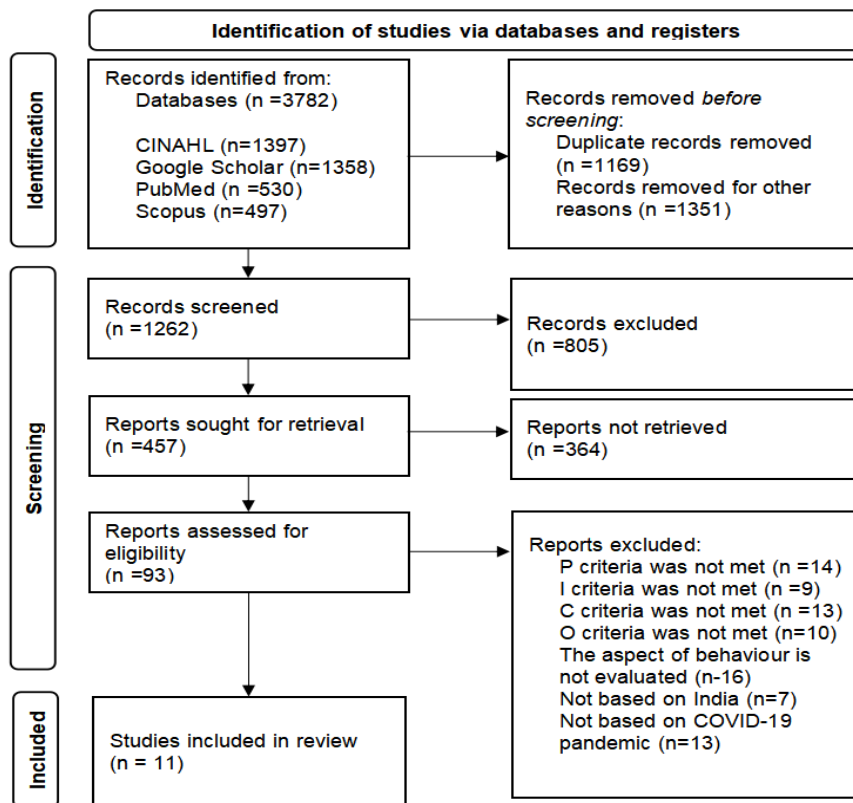


Figure 1. PRISMA flow diagram

#### 3.2 Analysis of Results

The review found six major themes related to the effect of social media on preventive behaviours. The positive impact of social media includes catalysing awareness, shaping psychological responses and perceptions at an individual level, behavioural changes at a community level and social media as the most influential media source for behavioural improvements. The negative effects are related to the themes of misinformation and disparities that emerge from social media health communications.

##### 3.2.1 Catalysing Awareness: The Initial Step in Behavioural Improvement

The process of behavioural development in a person starts with the attainment of knowledge and awareness regarding a health threat. Social media was the leading information source during the COVID-19 pandemic for disease prevention and served as the fastest route to increase the public’s awareness in India (Kumar et al., 2022). Thus, the information shared on social media actively shapes the perceptions of the public regarding a health threat and how they cope with it.

The main challenge during a disease outbreak, especially in the initial stages, is a great deal of uncertainty regarding the mode of transmission, treatment, and recovery. Media can play a critical role in the early stages of a pandemic when medical healthcare facilities and biomedical interventions (vaccination) are not proportionately available to lower the

burden of the disease. In such a scenario, the media has helped in changing public attitudes and behaviours to adopt non-pharmaceutical interventions (Tiwari et al., 2021). The broadcasting of global information campaigns or intervention strategies using social media advertisements was found to be effective in motivating behavioural changes (Rai et al., 2022, Tiwari et al., 2021). The Indian government used different media and social networking websites continuously for information campaigns to increase the awareness of citizens using slogans such as “Stay home, Stay safe”, “Be clean, Be healthy”, “Jab Tak Dawai Nahi, Tab Tak Dhilai Nahi” (No carelessness till a medicine is found), “Do Gaj ki Doori, Mask Hai Jaroori” (Mask and maintaining distance of two yards is necessary), etc. The basic reproduction number ( $R_0$ ) is an epidemiologic metric used to explain the contagiousness or transmissibility of infectious agents. The disease-free equilibrium  $E_0$  is considered to be locally asymptotically stable if  $R_0 < 1$  or unity and unstable if  $R_0 > 1$ . The study revealed that the implementation of non-pharmaceutical intervention strategies can lower the basic reproduction numbers below unity. Continuous propagation of awareness through the Internet and social media should be regularly circulated by health authorities or government officials during the outbreak of a crisis (Rai et al., 2022).

A study conducted in the state of Manipur in India determined a strong correlation between the amount of COVID-19-related information that individuals obtained online, from both active searches and passive exposure to social media, and the adoption of protective behaviours (Bala et al., 2021). This is in agreement with the findings of another study which concluded that the population in Jammu and Kashmir had good information, a positive outlook, and adherence to protective behaviours, which was largely influenced by the health information shared on social media (Dkhar et al., 2020). Another study established an interrelation between social media usage and factors such as public health knowledge, behavioural improvements and public health security among the Indian population (Chouhan et al., 2020).

A study based on text mining revealed the crucial presence of social media in sharing information and experiences as one of the major themes of COVID-19 communications. The methods used on these platforms, such as storytelling, influencer reachability, and video sharing, can aid the general population in raising their level of awareness and the circulation of verified information (Yadav & Sagar, 2023). Thus, social media is the most powerful medium in India at present; it has a massive influence on human behaviour and has transformed the ways of communication (Dhanashree et al., 2021).

### 3.2.2 Shaping Psychological Responses and Perceptions

Upon the consumption of information about a health threat on social media, one is likely to experience a heightened sense of vulnerability and self-relevant emotions which leads to the development of health-protective behaviours. Correspondingly, the majority of participants in a study reported that they felt a moderate level of fear which led to the uptake of protective behaviours in more than 90% of people and this was strongly influenced by social media health information. The amount of information obtained from social media caused fear, frustration, and confusion and this was collectively termed “cyberchondria”. Although cyberchondria and information overload are generally considered to be negative, the results of the study showed that these factors contributed to the widespread adoption of recommended preventive behaviours by the population (Bala et al., 2021). Contrarily, a study found that risk perception and social media had a negligible effect on the attitudes and behavioural intentions of people for taking the COVID-19 vaccine (Mir et al., 2021).

Exposure to social media platforms and the fear of the virus were found to be the major determinants of vaccine hesitancy which also impacted individual psychological health among the Gujarati population (Tolia et al., 2022). Additionally, one of the major themes retrieved from the results of a study focusing on sentiments related to vaccination was the fear of the disease. The study suggests that communication experts should pay attention to the psychological response of people as fear, above a certain level, can cause severe mental health problems (Yadav & Sagar, 2023).

Another study compared the consumption of health information and psychological responses of different age groups. It was observed that the respondents in the age group of 20 and 29 years showed the lowest levels of anxiety and the highest level of social media usage (Dhanashree et al., 2021). Therefore, the formulation of precise risk communication strategies through social media to enhance perceptions related to threat appraisal and self-efficacy could result in the development of preventive practices (Lahiri et al., 2021).

### 3.2.3 Community as a Driving Force for Behavioural Changes

Research has already shown that social media has an effect on the way people respond to a health threat at an individual level. Moreover, social media provides a platform for discourses as stated in (Alivi et al., 2018) and can initiate behavioural changes at a societal level. Respondents in a study reported that social media helped them obtain information regarding the resources to give and receive social support during the COVID-19 pandemic (Bala et al., 2021).

Social media played a preponderant role in circulating information about infected patients. It provided a platform to directly communicate with people who recovered from the disease which helped in reducing community transmission. A study noted that sharing positive experiences on social media platforms can create strong advocacy and influence other

people in the community (Yadav & Sagar, 2023). Another study elucidated that social media partially influences the understanding and behavioural changes related to health among individuals which leads to the health security of the public as a whole (Chouhan et al., 2020). Hence, it is conspicuous from these studies that social media has a pronounced effect on behavioural formation at an individual and societal level.

#### 3.2.4 The Most Influential Source for Behavioural Changes: A Comparative Analysis

A few studies provided a comparison between health communications on various media platforms and their effect on behavioural changes in an individual. All the results established social media as the most influential component in behavioural improvements. During the pandemic, there was a shift from print to digital media. A study that compared the role and impact of different media provided evidence that the usage of the internet or social media was highest during and before the lockdown, followed by TV news while the use of newspapers, radio, and magazines declined considerably. Newspaper supply decreased during the pandemic due to doubts surrounding disease transmission through newspapers (Dhanashree et al., 2021). A study evaluating the sentiments of the public towards vaccine uptake and protective behaviours based on text mining highlighted the importance of social media adaptivity as one of the most striking themes in the backdrop of the COVID-19 pandemic (Yadav & Sagar, 2023).

Two studies incorporated a marketing aspect in the process of behavioural change associated with social media health communications. Social marketing research shows that a one-time behaviour change like vaccination is easier to promote. A study conducted in Gujarat highlighted the benefits of using the internet and social media to leverage vaccine uptake as it is one of the states in India with the highest teledensity and also has many social media users. The study suggests reaching out to the public using direct social marketing strategies which also include targeted ads on social media (Tolia et al., 2022). Another study also states that behavioural development based on the consumption of social media health information is mediated by public health awareness as well as marketing activities. The research recommends managers and policy-makers adopt steps to enhance the marketing of their products using social media by adding features that help with immunity and safety measures against the disease (Chouhan et al., 2020).

#### 3.2.5 Implications of Health Communication Disparities on Behaviour

Social media plays an integral part in the process of health information-seeking, formulation of perceptions and the development of health-protective behaviours. However, these factors are greatly influenced by the differences in socio-demographic status, access to the internet and social media, digital literacy etc. While evaluating the positive impact of social media on behavioural changes in individuals, it is also inevitable to consider its implications on non-users. A study concluded that people who obtained information primarily from social media showed more likelihood of following health-protective behaviours (Lahiri et al., 2021).

There are major differences in cyberchondria and perceived vulnerability by the area of residence and educational level. Residents in semi-urban areas reported a considerably higher level of cyberchondria while those from urban areas experienced an increased sense of vulnerability to COVID-19. Correspondingly, information overload was substantially higher among individuals with education up to higher secondary (Bala et al., 2021). Another study noted that the influence of social media on behaviour was found to be dependent on a person's gender, age and education (Dhanashree et al., 2021).

A study examining the effects of social media advertisements and local awareness in tackling COVID-19 in India revealed that the dissemination rate of awareness among vulnerable individuals at community and individual levels is vitally important in controlling the risk. Global and local awareness increases the understanding of people regarding health practices and information transforms public attitudes and behaviour toward the disease. However, word-of-mouth communication or local awareness is the ideal way of disseminating information to people who are dependent on their community rather than social media and the internet (Tiwari et al., 2021). Thus, it is salient to consider the differences in information consumption and behavioural changes in both social media users and non-users to cater to the information needs of all people in the social spectrum.

#### 3.2.6 The Impact of Misinformation on Behaviour

While social media plays an imperative role in public health awareness and advocacy during a health crisis, it also becomes a breeding ground for misinformation. The COVID-19 pandemic is considered to be the first true social media infodemic because it has accelerated misinformation worldwide and fuelled panic and fear among people. Social media is an effective tool to disperse information and promote a positive environment during a health crisis, but misinformation can have an adverse effect on the behavioural development process (Dhanashree et al., 2021). Misinformation on social media, especially Facebook and WhatsApp, was found to be the major reason behind vaccine hesitancy among the population in Gujarat (Tolia et al., 2022).

The outbreak of COVID-19 has also been outpaced by misinformation spread among the population. It has been observed

that misinformation can cause a deleterious impact through social media as false information can spread fast and easily through these platforms which makes it difficult to regulate it. Misinformation can possibly continue to influence beliefs and attitudes even after being corrected if it is not replaced by an alternate causal explanation (Dhanashree et al., 2021). The absence of a knowledge-providing mechanism was one of the major COVID-19 vaccine hesitancy amplification themes extracted by a study based on text-mining on social media (Yadav & Sagar, 2023).

### 3.2.7 Conceptual Scheme

An individual's behavioural development can be defined through the lens of Bourdieu's theory which combines structural and behavioural aspects into one coherent framework. Habitus is associated with the resource of knowledge; individuals act and think based on the social context while those ideas, beliefs and practices are not entirely determined by social structure (Bourdieu, 1990). The field is constituted by a social space, which is also a network of power relations; it is by the means of power relations, stemming from the accumulation of capital (social, economic and cultural), that an individual secures a position in the field. Particularly, human behaviour is rooted in socio-economic conditions and cultural capital. Furthermore, cultural capital is acquired primarily through an individual's initial learning and is unconsciously influenced by the surroundings (Bourdieu, 2000).

The advent of digitally mediated communication technologies has created a whole new realm (Ignatou & Robinson, 2017). Emerging literature has defined digital capital as a new form of capital in the information society. Digital capital is a subcomponent of cultural capital and is related to the use of digital technologies and internet culture (Calderón Gómez, 2021). Additionally, the internet is an online field composed of its own hierarchy as well as position-taking rules (Bourdieu & Wacquant, 1992; Julien, 2015; Levina & Arriaga, 2014). By way of illustration, the concept of habitus in a field characterised by social media can be used to explain how actors move through online spaces as new and crowded fields of meaning-making (Papacharissi & Easton, 2013). On the other hand, the social media habitus is infested by misinformation, disinformation and fake news which have a significant impact on behavioural development (Dhanashree et al., 2021). Misinformation was noted as the primary cause of vaccine hesitancy during COVID-19 in a study conducted in Gujarat (Tolia et al., 2022).

Health communications refer to interpersonal or mass communication activities aimed at improving the health of individuals and populations (Ishikawa & Kiuchi, 2010). Scholars argue that capital in different forms, specifically in knowledge and skills, is a principal component in people's capacity for agency, including that for health (Abel and Frohlich, 2012). Thus, healthcare choices can be explained as the processes of agency in action (Collyer et al., 2015). For example, a study evaluated in this review found that individuals who gained information on COVID-19 primarily from social media showed more likelihood of following health-protective behaviours (Lahiri et al., 2021). The production and distribution of health are linked to elements of social, economic and cultural resources and the unequal distribution of this capital leads to social health inequalities (Abel, 2007). The studies assessed in this review enhance the understanding of the existing literature by linking differences in socio-economic conditions to health communication inequalities in the context of social media. Variations in the levels of perceived vulnerability and cyberchondria surrounding COVID-19 were mainly determined by the area of residence and educational status of individuals (Bala et al., 2021). Furthermore, the impact of social media on behavioural development was found to be dependent on a person's gender, age and education (Dhanashree et al., 2021).

## 4. Discussion

This review attempted to gather evidence regarding the impact of social media health communications on health-protective behaviours among the Indian population. Firstly, awareness is the key factor that prompts people to understand the gravity of a health threat and the ways to cope with it. The knowledge, attitudes and practices related to COVID-19 are considerably linked to the consumption of information on social media. Social media users showed a higher level of adherence to preventive measures as opposed to non-users. Additionally, when compared to other media sources like television, radio, newspapers and magazines, the effect of social media was found to be more prominent. There was a shift from print to digital media during the pandemic mainly due to the fear of disease transmission. Social media adaptivity was prevalent among the Indian population. Thus, social media is considered the most influential platform for health information during a health crisis due to its wide reach and, therefore, it can help in creating awareness among the public.

Secondly, the extent of information consumption on social media has a notable impact on behavioural changes. Upon receiving health information, individuals formulate their psychological responses and perceptions regarding the health crisis which may lead to fear and anxiety. These emotions are found to be helpful in adopting preventive measures. But if it goes above a certain level, these emotions can have disadvantageous effects. Even though cyberchondria and information overload are considered to be negative, one study found them as beneficial factors that lead to preventive behavioural development (Bala et al., 2021). Therefore, social media has a substantial influence on the cognitive process



of behavioural development at an individual level.

Thirdly, social media can increase public health awareness which leads to the health security of the general population. Social media opened a platform for people to interact with each other during a time when social distancing was indispensable. People from different parts of the world came together to share their experiences and information online to build awareness at a community level. It also helps with breaking the psychological monotony and isolation that people may experience during a health crisis. Additionally, social media can be used for the responsible bridging between users and non-users as social media audiences keep their family and friends, who do not have access to these platforms, updated about the pandemic and preventive measures. Social marketing was also a method suggested by two studies as advantageous for both managers and policy-makers as well as the public (Chouhan et al., 2020; Tolia et al., 2022).

The major negative impacts of social media on public behaviour were associated with misinformation and disparities in health communications. With the extensive amount of information circulating on social media, it is difficult to detect and control misinformation. There seems to be a lack of a knowledge-providing mechanism on these platforms. Also, the way people process information is highly predicted by factors such as socio-demographic status, age, education, digital literacy etc. It is advisable that people who do not have access to social media acknowledge the information gap and actively seek out alternative sources of health information and engage with local health communicators and the community to obtain informational and emotional support during a health crisis.

## 5. Limitations

There are a few limitations associated with this review. Firstly, most of the studies were based on the population in North India. Therefore, an understanding of how the dynamics of health communication practices on social media vary in the southern parts of India cannot be specifically derived from this study. Secondly, all the studies are cross-sectional which can be regarded as a limitation; longitudinal studies would have helped in understanding the causal relationship between preventive practices and social media exposure. Some studies considered for the review may limit the generalisability of the result because of the sample size and type. One study had a small sample size due to which the cause-and-effect relationship could not be established (Dhanashree et al., 2021). The sample of another study was also small and skewed towards highly educated teaching staff, which does not represent India's educational and occupational profile (Tolia et al., 2022). Another study investigating vaccine intentions did not consider the moderating effect of demographic variables (Mir et al., 2021). The internal diversity of social media pages and how the practices of information extraction vary on each platform were not explored in most of the studies. The majority of the studies were conducted during the first wave of the COVID crisis in India and there was a lack of focus on the second wave.

## 6. Conclusion

The unprecedented outbreak of the COVID-19 pandemic disrupted the economic, trade and cultural ties worldwide. But social media helped ensure equity in terms of making health information accessible to everyone (Ganapathy, 2022). It also steers the psychological responses of the public and influences their threat perceptions. Thus, the emotional responses of the public should be considered with utmost attention while designing health communication campaigns on social media. Social media health communication contributes to public health security in a collective way by promoting behaviours at a community level. However, throughout this process, disparities and misinformation are rife and have a colossal effect on public health behaviours.

Social media is the most pervasive source of information in comparison to other major media sources like television, newspapers, etc (Alivi, 2023). Any differences among social and racial/ethnic groups in the use of different mediums of communication, such as social media, could lead to both an indirect and direct effect on health, in turn resulting in an exacerbation of existing health disparities among vulnerable groups (Ackerson & Viswanath, 2009). The most prevalent health disparity associated with communication inequalities is low protective behaviour (Häfliger et al., 2023). Differences in socio-demographic status can determine how people handle misinformation. Higher social disadvantage and lower levels of digital health literacy are related to an agreement with misinformation (Pickles et al., 2021).

Conclusively, social media has proven to be effective in prompt health communications, influencing the way people consume information and shaping their behaviour. Taking it as an advantage, the public can be motivated through social media to follow safe practices to control the severity of a health crisis.

## Acknowledgments

Not applicable

## Authors contributions

Ms Maria Brony conducted the systematic review and wrote the manuscript under the supervision of Dr Mumtaz Aini Alivi and Dr Md Azalanshah Md Syed. Mr Nasrullah Dharejo supported the research by providing constructive feedback.

**Funding**

The authors received no financial support for the research, authorship, and/or publication of this article.

**Competing interests**

The authors have no competing interests to declare.

**Informed consent**

Obtained.

**Ethics approval**

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

**Provenance and peer review**

Not commissioned; externally double-blind peer reviewed.

**Data availability statement**

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

**Data sharing statement**

No additional data are available.

**Open access**

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**Appendices**

Table 3. Quality Assessment

Author/s	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8
Bala et al., 2021	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chouhan et al., 2020	Yes	Unclear	Yes	Yes	Yes	Yes	Yes	Yes
Dhanashree et al., 2021	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear
Dkhar et al., 2020	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	Yes
Kumar et al., 2022	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lahiri et al.,	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mir et al., 2021	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rai et al., 2022	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tiwari et al., 2021	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tolia et al., 2022	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yadav & Sagar, 2023	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*JB* Joanna Briggs Institute, *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?