

Original Research Article

COVID-19 and social media: doctors' opinion

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ABSTRACT

Background: Several research and literature available regarding the impact of social media on healthcare are increasing and play a vital role during COVID-19 in disseminating information. Numerous studies gauging the public's opinion are available, but minimal reports about the doctors regarding the role of social media. This current study aims to capture the view of the doctors who worked during the pandemic regarding the role of social media.

Methods: This cross-sectional questionnaire-based survey study captures the opinion of doctors in India during the pandemic. A pre-tested questionnaire was circulated among doctors and the data was collected from January 2022 to November 2022. After discarding 11 incomplete responses, 389 responses were considered in the analysis based on Cochran's formula. Simple statistical tests were used using MS Excel.

Results: Out of 389 responses, 69% are Male and 28% are Female and the majority are Specialists (39%). Most of the responded doctors are in the active age group, with 36% between 30-39 years. More than 50 % of the population of doctors have zero to ten years of experience. They collectively opine that social media have more negative impacts (~70%) than positive ones (~48%) and most (72.9%) felt the need for some control/regulatory mechanism.

Conclusions: The study concluded that doctors acknowledged the positive role of social media but simultaneously cautioned about the negative aspects, especially in spreading medical misinformation/infodemic and warned that social media should be used to share official information with caution.

Keywords: Social media, COVID-19, Social networking, Internet, Infodemic, Healthcare

INTRODUCTION

Social media has emerged as a popular medium for people to express their opinions, perceptions and attitudes and it has transformed how the world interacts with information.¹ Social networking sites such as Facebook, Twitter, and Instagram allow users to post and share information with others on that platform. The massive volume of data makes it impossible to institute any semblance of real-time fact-checking or verification.² The same social media has an unprecedented ability to connect with others across the globe, and the information,

misinformation, and disinformation spread all too easily.² Numerous research and literature are available on social media's impacts on health care since 2010 and increasing exponentially.^{2,3} But, only during this COVID-19 pandemic it has been possible to communicate so fast due to social media and it plays an essential function in disseminating information.^{2,4} Government bodies, public organizations, and businesses use this medium to share information with the public. Some multiple advantages and disadvantages must be considered and responsible use of these tools can help quickly disseminate critical information globally, removing geographic boundaries.⁴

Numerous studies have been done in this field to gauge the public's opinion on the relevance of social media during this pandemic. However, only a few have exclusively captured the perception of healthcare professionals, whose opinion matters the most during this pandemic. The current study attempts to capture the view of the health professional, exclusively doctors, regarding social media and its impact during the COVID-19 pandemic.

METHODS

This Cross-Sectional Descriptive study is carried out with doctors all over India who worked in COVID units. After an extensive literature search, a questionnaire has been developed catering to the various objectives of this study using google forms. There are three main aspects of the questionnaire, positive, negative and interventional aspects of social media (Table 1). A pilot study with a sample size of 30 was tested among the doctors at the study center in October-December 2021 and necessary changes were made. The pre-tested questionnaire is circulated among doctors using social media like WhatsApp, Facebook, etc. The data was collected from January 2022 to November 2022 and analyzed using appropriate statistics. A total of 400 responses has been received. After discarding 11 answers due to incomplete information, 389 responses were considered. Sample 389 is considered statistically significant based on Cochran's formula with an unknown population and a population proportion of 50%. There are six questions on the positive aspect of social media and corresponding responses by the doctors (Table 1), (Figure 1) and three questions on the negative element of social media and the related opinion of the respondent's doctors (Table 1), (Figure 1). Rest four questions are for the interventional aspect of social media and the respective views of the doctors (Figure 1).

RESULTS

All over India, 389 responses were found through the questionnaire. The responses were received from all over India, mostly from Odisha (17%), followed by Gujrat (15%), Telangana (14%) and others (Figure 2). 69% are Male, and 28% are female (3% do not prefer to say). Notably, among the respondents, the majority are specialists (39%), followed by others (31%), 16% super specialists, and 15% general practitioners. Most of the responded doctors are in the active age group, 36% between 30-39 years, 22% between 40-49 years, 21% between 20-29 years of age, and only 1% more than 70 years. More than 50 % of the population of doctors have zero to ten years of experience, the highest being 0-5 years of experience (25.4%), followed by 5-9 years (14.9%) and 10-14 years (14.9%) and lowest is 30-45

years of (4.5%) experiences. The responses from the said respondent doctors regarding the various questionnaire are summarized in a five-point Likert scale from strongly disagree to strongly agree (Table 1).

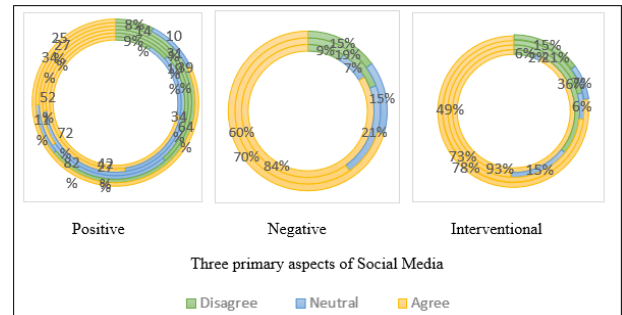


Figure 1: Responses from doctors on three primary aspects of social media.

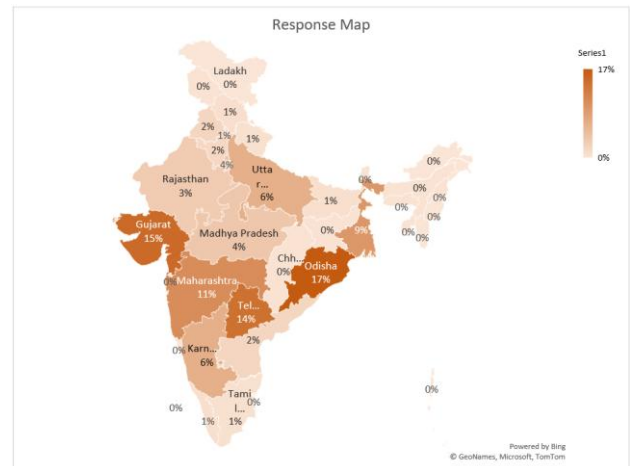


Figure 2: Map of respondent's doctors from different states and UTs of India.

The positive aspect of social media and the corresponding responses like an excellent tool, preferred media and dependable, helpful, reliable and responsible tool. The doctors agreed on positive aspects by 48.6% (strongly agreed by 15.4%) and disagreed by 27.5% (strongly disagreed by 12.1%) and neutral responded 23.9% (Table 1), (Figure 1). The Negative aspects of social media and related opinions, like, damaging the image, motive of business, and spreading more stigma. The doctors agreed about the negative aspects by 70.9% (strongly agreed by 22.4%), disagreed 14.7 % (strongly disagreed by 3.1%), and 14.4% were neutral (Table 1), (Figure 1). Opinions regarding the interventional aspect of social media, like mechanism to check, code conduct etc., the doctors agreed 72.9% (strongly agree by 34.2%), disagreed 19.6 % (strongly agree by 9.8%), only 7.5% opined neutral (Figure 1).

Table 1: Question-wise Likert scale responses of the doctors.

No	Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Positive aspect	1	During this pandemic, social media has proved to be an excellent tool	18 (4.5%)	35 (9%)	133 (34.3%)	128 (32.8%)	75 (19.4%)
	2	Social media is a preferred medium for spreading awareness of medical issues about COVID-19 among the public	18 (4.5%)	18 (4.5%)	75 (19.4%)	197 (50.7%)	81 (20.9%)
	3	The information on social media posts is dependable and helpful	18 (4.5%)	105 (26.9%)	163 (41.8%)	70 (17.9%)	35 (9%)
	4	Media houses do a great job posting responsible news/content about the COVID-19 situation on social media.	87 (22.4%)	64 (16.4%)	105 (26.9%)	105 (26.9%)	29 (7.5%)
	5	Social media content about treatment /investigations/medications is up-to-date, and the public can rely on them.	133 (34.3%)	116 (29.9%)	40 (10.4%)	81 (20.9%)	18 (4.5%)
	6	Social media is an excellent instrument to eliminate the geographical limitation	6 (1.5%)	23 (6%)	40 (10.4%)	197 (50.7%)	122 (31.3%)
	Average positive aspects		47 (12.1%)	60 (15.4%)	93 (23.9%)	129 (33.2%)	60 (15.4%)
Negative aspect	1	Unverified posts about medical professionals and hospitals by random sources do not reflect the actual situation and can be damaging to the image of the healthcare profession	18 (4.5%)	18 (4.5%)	29 (7.5%)	192 (49.3%)	133 (34.3%)
	2	Most of the social media posts about COVID -19 are being created with a business/marketing motive rather than to help people	12 (3%)	64 (16.4%)	81 (20.9%)	174 (44.8%)	58 (14.9%)
	3	Social media posts are spreading more stigma about COVID-19 patients than helping them.	6 (1.5%)	52 (13.4%)	58 (14.9%)	203 (52.2%)	70 (17.9%)
	Average negative aspects		12 (3.1%)	45 (11.6%)	56 (14.4%)	189 (48.5%)	87 (22.4%)
Interventional aspect	1	There should be a mechanism to check false news and fear-mongering created through social media.	18 (4.5%)	6 (1.5%)	6 (1.5%)	128 (32.8%)	232 (59.7%)
	2A	It is fine with media channels to obtain an expert opinion about the pandemic from any medical professional/doctor and circulate it over social media.	52 (13.4%)	87 (22.4%)	58 (14.9%)	145 (37.3%)	46 (11.9%)
	2B	Only notified health professionals/doctors of high stature should give updates on the pandemic on social media	46 (11.9%)	35 (9%)	23 (6%)	163 (41.8%)	122 (31.3%)
	3	There should be specified guidelines/code of conduct for health professionals/ doctors for releasing social media posts on the pandemic	35 (9%)	23 (6%)	29 (7.5%)	168 (43.3%)	133 (34.3%)
	Average interventional aspect		38 (9.8%)	38 (9.8%)	29 (7.5%)	151 (38.7%)	133 (34.2%)

Table 2: A literature review of social media's positive and negative aspects.

Positive impacts	Negative impacts	References
Increased focus on how it contributes to medical decision-making and patient-clinician interactions has occurred in recent years.	The COVID -19 pandemic has highlighted the various sources of misinformation and disinformation and how they impact care on many levels.	Michael et al, 2022 ²
Responsible use of these tools can help quickly disseminate crucial new information and relevant new scientific findings, share. Removing geographic boundaries for the first time in history.	Follow some basic guidelines when sharing information on social networks in the COVID-19 era. Social media platforms have been criticized for disseminating information.	Gonzalez-Padilla et al, 2020 ⁴
Contributes to the emerging body of knowledge in data science and social media and informs strategies to combat social media misinformation.	The spread of misinformation in social media has become a severe threat to public interests. The early reviews focused on social media misinformation research,	Muhammed et al, 2022 ⁵
Social media allows for easy access and sharing of information in real time. Public health officials have used social media to spread valuable information using social media to disseminate evidence-based	The spread of misinformation can negatively affect the infrastructure of healthcare and society. Misinformation was commonly shared on social media platforms. Individual websites and networks play a role in spreading	Joseph et al, 2022 ⁶

Continued.

Positive impacts	Negative impacts	References
information was beneficial in combating misinformation.	COVID-19 misinformation. Implementation of lockdowns, lifestyle disruptions, school closures, and social distancing has driven a surge in social media and digital technology use.	Martindale Jaclyn et al, 2022 ⁷
The three points of view stressed the critical role of social media as a dissemination tool of the infodemic among citizens	Focusing on the impact of the infodemic considering its spread in different languages with different biases Nineteen studies measured or discussed the effect of social media misinformation on vaccine hesitancy. Implied that the misinformation spread on social media had a negative impact on vaccine hesitancy and uptake.	Corinti et al, 2022 ⁸ Skafle et al, 2022 ⁹
With the onset of the COVID-19 pandemic, social media has rapidly become a crucial communication tool for information generation, dissemination and consumption.	For COVID-19, social media can be crucial in disseminating health information and tackling infodemic and misinformation.	Tsao et al, 2021 ¹⁰
Nurses used social media to gain and share information about COVID-19 and support each other .Used social media to educate people to perform the 'right 'COVID-19 behaviours in society.	Social media functioned as profession-promoting channels	Glasdam et al, 2022 ¹¹
Respondents were well informed about the drugs used in clinical trials to treat the virus. Younger professionals also believed that social media could be used to share official information about the virus	Information about alternative treatments against the virus affected the credibility of health professionals. To a greater extent that trust in doctors was affected and acknowledged the role of social media in spreading medical misinformation	Farsi et al, 2022 ¹²
The public and patients can use social media to improve their health and knowledge.	Healthcare providers, patients and the public need to remember the risks associated with using social media. The limitations and shortcomings of the patients' use of social media are to be understood.	Coman et al, 2022 ¹³

DISCUSSION

The responses are male dominant (69%), and the distribution of type of medical professionals depicts mainly specialists (36%) and others means administrative health professionals. It depicts the story of the pandemic being served by specialists and in hospital setups mainly. However, the role of super specialists and general practitioners is always there; rather, it depends on the nature of the role and work. The sample age distribution shows that more than 70% of doctors are aged between 20 and 50 years, the active age group. It is also found that the respondent group mostly zero to ten years of experience, which corroborates with the pandemic. More than half of the doctors (~48%) agreed that social media is a wonderful tool, preferred media for spreading awareness among the public, and an excellent instrument to eliminate geographical limitations during the pandemic. In this study, doctors opined that social media has more negative aspects (~70%) compared to positive elements (48.6%), and there is a need for a control mechanism (72.9%). There are several studies describing both positive and negative aspects of social media from several groups of people (Table 2). A study offers a perspective for the practicing clinician regarding how social media interactions influence patients for proactively discussing medical decision-making with patients and suggests that the best practices need to be established to assist medical professionals in developing an online presence to combat misinformation or address individual patients. 2 another study's says multiple

advantages and disadvantages summarize the most relevant information on the influence, benefits, and drawbacks of using social networks during the COVID-19 pandemic.^{4,14} In a systematic review of 28 articles pertinent to three socially sensitive domains; disaster, health, and politics; discuss the inter-relationships of concepts and the strategies to control the spread of misinformation on social media.⁵ A scoping review to identify the sources and impact of COVID-19 misinformation on social media and examine potential strategies for limiting the spread of misinformation, using 20 articles on the three themes, suggested that the said practice may exacerbate the severity of the pandemic, create mistrust in public health experts and impact physical and mental health and efforts to limit and prevent misinformation require interdisciplinary, multilevel approaches involving government and public health agencies, social media corporations and social influencers.^{6,15,16} In a narrative review on chronic tic disorders, functional tics, and mass functional illness with a particular focus on the key distinguishing features, social media's role and COVID-19 noted that social media are implicated in the rise and spread of tic-like behaviors; which may represent a modern-day form of mass functional illness.⁷ A narrative review based on three points of view, namely, the volume of use of social media, the evolution of scientific production and emerging issues, suggests other areas of in-depth research to combat high-level infodemic produced by scientific publications that are not yet official (preprint) or that have undergone peer review with bias/distortion and focusing

on the impact of the infodemic considering its spread in different languages.^{8,15-18} Another review article with 45 articles aimed at misinformation about COVID-19 vaccines spread on social media platforms and its effects identified three main themes of misinformation: medical misinformation, vaccine development and conspiracies, and concluded that to prevent these misconceptions, health authorities should openly address and discuss these false claims with both cultural and religious awareness in mind.⁹ In a scoping review, 81 studies identified five overarching public health themes concerning the role of online social media platforms and COVID-19. These themes focused on: surveying public attitudes, identifying infodemic, assessing mental health, detecting or predicting COVID-19 cases, analyzing government responses to the pandemic, and evaluating the quality of health information in prevention education videos and emphasizes the paucity of studies on the application of machine learning on data from COVID-19-related social media and a scarcity of studies documenting real-time surveillance that was developed with data from social media on COVID-19.^{10,18,19} In a scoping review investigating nurses' use of social media about COVID-19 using eleven cross-sectional studies, three themes were identified: 'Social media as a knowledge node,' 'Social media functioned as profession-promoting channels,' and 'Social media as a disciplinary tool' and concluded for further multi-methodological and in-depth qualitative research, including theoretically framed studies, with a specific focus on the uses of social media among nurses during the pandemic.^{11,15,16,20} Another narrative review uses 91 studies to discuss the usage of social media in the healthcare industry from the perspective of patients and describe the main issues surrounding its use about ethical and legal considerations in the use of social media and suggests that due diligence must be practiced to assess the credibility of the information obtained and its source and the limitations and shortcomings of patients' and risk associated with the use of social media should be understood.^{12,16} Overall, the positive aspects are enormous, but precautions for negative aspects could lead social media a step ahead in communication.

In the current study, the opinion of healthcare professionals, exclusively doctors who worked in the COVID units all over India, is that social media have more negative (~70%) impacts than positive (~48%) ones. However, this current study shows a more neutral response in favour of positive aspects (28.9%) than negative aspects (14.4%) of social media (Table 1 and figure 2). Most (72.9%) of them agree about the need for regulation or ethical consideration. A similar type of study with 536 Romanian healthcare professionals was undertaken and aimed to analyses, from the perspective of medical staff, the way medical and non-medical information about the virus was communicated during the pandemic to encourage the development of future research or interventions to raise awareness about the way misinformation affected medical staff. The findings

revealed that most respondents stated that the credibility of health professionals and, to a greater extent, trust in doctors were affected.¹³

People are now connected in a borderless web-based world. The modern public, especially the younger generation, relies heavily on the internet as the primary source of health-related information. In health care, patients can use social media for more tailored uses such as telemedicine, finding a provider, and peer support; Healthcare professionals had to face numerous challenges during the pandemic, their professional activity being influenced not only by the virus but also by the spread of medical misinformation. There are a growing understanding and recognition of how social media impacts health care. Healthcare professionals from all backgrounds need to increase their understanding of these complex interactions to assist patients with their medical decision-making best. Knowledge of these impacts is essential to mitigate downstream health effects and poor outcomes. The infodemic is an integral component of the cyber risk regarding the poor and uncontrolled dissemination of information related to the COVID-19 pandemic.

CONCLUSION

The study concluded that Healthcare professionals, especially doctors in India, acknowledged the positive role of social media but simultaneously cautioned about the negative aspects, especially in spreading medical misinformation. They also agreed that social media could be used to share official information with caution or regulation and control. Judicious use of social media in ethical and moral ways can make social media a boon, not a bane.

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