

Impact of social media on healthcare providers: a literature review of the benefits, challenges, and quality assurance

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Abstract

Background: As the world advances technologically, social media has become an essential part of the lives of billions of people worldwide and affects almost every imaginable industry. With the increasing focus on digital technology today, the healthcare sector increasingly recognizes social media as a crucial platform for promoting healthcare, health promotion, career development, practice promotion, recruitment, and collaboration.

Objective: This review aims to illuminate the global use of social media and explore its role as a crucial tool in the healthcare field as seen by healthcare professionals.

Method: Peer-reviewed journal articles published between 2015 to 2024 were searched in two data bases - Pub-med and Google Scholar. Forty articles were selected and coded in terms of author, publication year, journal area, country, and social media used for health purposes.

Results: Literature findings are best categorized as professional networking and collaboration, health promotion, physician- patient relationship and professional education and training. However looking at the dark side of social media we are facing risk of fast dissemination of false news and misinformation, privacy and confidentiality concerns and unethical behavior shown on social media platforms .

Conclusions: Assessing the credibility of the sources and content available on social media sites is essential for regulating the content of information available on social media platforms. Healthcare providers should adhere to ethical and professional standards to protect patients' privacy and confidentiality. Social media platforms should be prudently used to mitigate the challenges and amplify their benefits.

1.1 Keywords- Social media, digital technology, misinformation, healthcare professionals, Physician-patient relationship, health promotion , quality assurance.

Introduction

Social media (SM), encompassing various online platforms like blogs, business networks, forums, and video sharing, widely used in research(1). It is revolutionizing every aspect of life with 5.04 billion users worldwide, accounting for 62.3% of the population. Facebook leads with 3.03 billion users, followed by YouTube, WhatsApp, Instagram, and WeChat. An increasing number of individuals are relying on the Internet for health information, and new research suggests that the information they discover online plays a significant role in shaping their healthcare choices. In an internet-based medical social platform, we see that having personal experience with a disease, which gives understanding of the illness, boosts the chances of patients connecting with others who have similar experiences and forming communication connections. Searching for health information online could potentially enhance healthcare results by lessening health care discrepancies and promoting patients' engagement with healthcare providers(48,49). Healthcare providers like clinicians are more frequently utilizing SM to share health-related information and knowledge and respond to patients' health-related inquiries(22,44). SM has been used as a tool for health interventions [34], health information [31] health promotion and behavior change [20]. In this review the authors aim to explore the following objectives.

- To study the role of SM from the viewpoint of patients and emerging issues regarding their use in healthcare.

- To investigate ethical and legal considerations while using SM.
- Credibility assurance and regulation of health information sources on SM.

2. Methodology

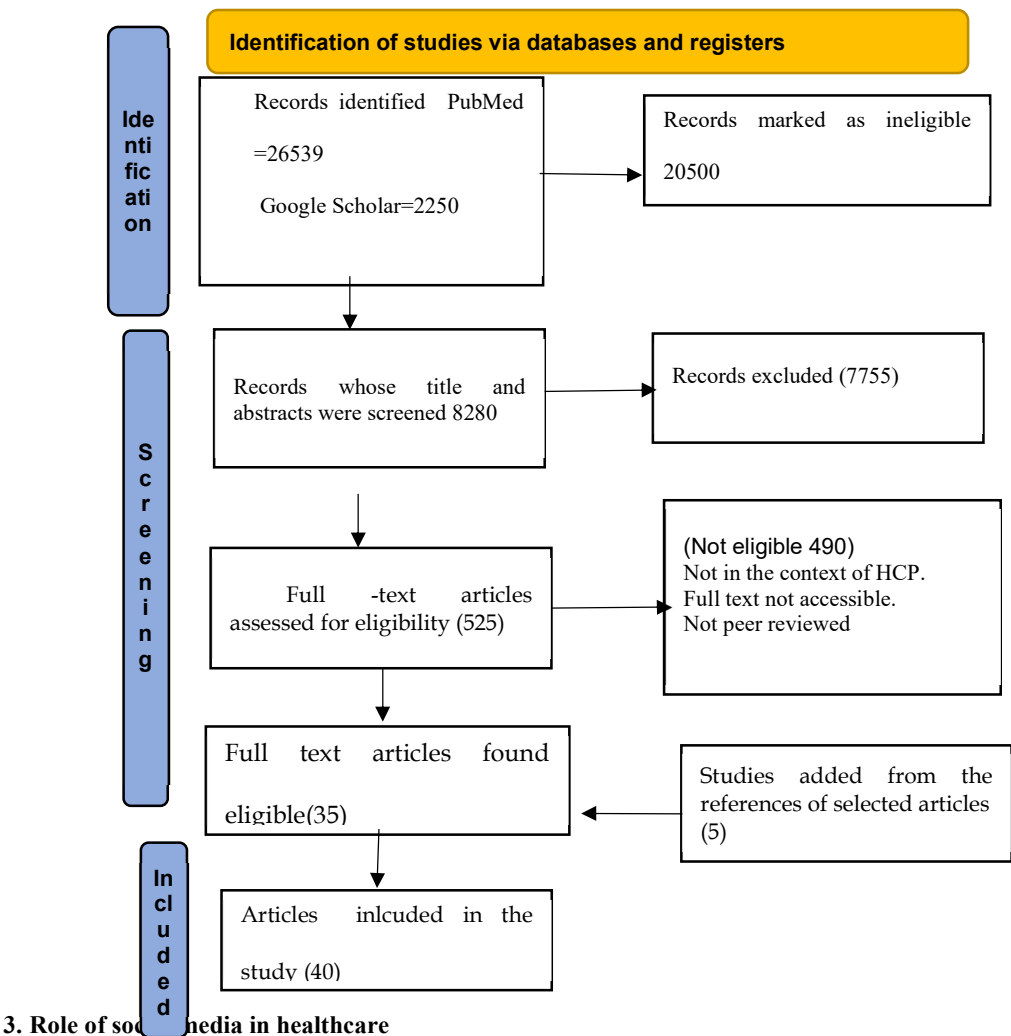
2.1 Search Strategy and Information Sources

Research articles indexed in two databases: PubMed and Google Scholar were searched from the period spanning from 2015 to 2024 adhering to preferred reporting items for systematic reviews and meta-analysis (PRISMA) during the search process. The search terms used were “social media”OR “social networks”OR Facebook OR “internet” OR “Twitter”OR “Instagram”OR “U-Tube” AND “Healthcare Professionals” OR “Healthcare Providers” OR “Medical Staff.”

2.2 Screening

The search approach was restricted to peer-reviewed papers with complete free text and in English-language. Commentaries, dissertations, and reviews were excluded.A manual reference search of the included studies was conducted to find additional pertinent papers.Initially 28780 articles were retrieved.Articles which mentioned the use of social media in the healthcare sector were selected .The final study included a total of forty articles.Figure -1 represents the search of the articles and screening process.The coding scheme included - name of the author,year,journal in which published,country in which research was conducted.Appendix A represents the summary of the articles under study.

Figure - 1 Search for the articles and screening process



3. Role of social media in healthcare

The following section summarizes the uses of SM and challenges associated with its usage.

3.1 Professional Education and training

Social media has helped create a personal learning environment (PLE), a potentially promising pedagogical learning approach (16). The recent COVID-19 environment has emphasized the significance of SM and virtual technology and has accelerated the use of digital platforms for communication, education, and information delivery. Physicians cited reasons for joining SM, such as networking, sharing knowledge, education, benchmarking, and branding (35). Rukavina *et al.* defined three primary advantages of SM for the e-professionalism of healthcare personnel- Patient education and health promotion, professional education and training, and professional networking and collaboration (45). SM opens doors to new opportunities, and facilitates, development of long-lasting personal relationships and exchange of ideas. Guerra *et al.* ; Alanzi *et al.* & Al-Nahdi *et al.*, study revealed respondents use SM to keep updated on recent publications, networking, knowledge sharing and enhancing professional expertise (24,3,5). SM has made it possible for scientists to swiftly and effectively share their findings with people everywhere in the world thereby increasing the chances that their publication is cited or incorporated into the research (43). Social networking sites (SNSs) are a popular method of global communication, with Facebook being one of the most popular platforms, especially among healthcare professionals (HCP) like dentists and dental students. Nevertheless, the discovery of unprofessional behavior on Facebook calls for an increase in awareness of online professionalism (6).

Khan *et al.* (2021) study reveals a large number of medical professionals utilize online medical forums to enhance their education. According to Alanzi *et al.* (2), almost 82% of health professionals thought that SM was beneficial for education on healthcare topics, with YouTube being the preferred platform. TikTok was examined for videos to assess the quality, credibility, and readability of content regarding tracheostomy. The increasing fame of TikTok presents a chance for the medical field to share better information and exert a positive impact on its audience (21). Hassona *et al.* (24) suggest healthcare providers, universities, and professional groups should enhance the quality of YouTube content by posting helpful videos and referring patients to trustworthy sources of information. Delli *et al.* (17) stated that patients are increasingly using the Internet and video-sharing platforms such as YouTube to make educated healthcare choices. Nevertheless, the variety of authors and absence of peer reviews on this platform have resulted in the spread of incorrect and deceptive information. Li *et al.* advise public health organizations to work with YouTube creators to distribute top-notch video content (30). According to an examination of anatomy education, including SM into blended learning strategies in anatomy programs may be beneficial to the academic anatomy community (8). Twitter has the potential to enhance student's learning capabilities, improve their motivation and engagement owing to its unique features, and significantly alter conventional academic healthcare discussions (15). Mohammadi *et al.* (32) in the survey revealed most respondents agreed or strongly agreed that tweeting academic articles disseminates scholarly information to the public. Jiménez-Hidalgo *et al.* (26) highlight the importance of institutions in providing health education and professionals enhancing communication abilities on social platforms to aid in public health initiatives using these crucial channels. Analyzing how Twitter is currently being utilized in the medical field has shown that numerous physicians effectively use the platform to disseminate research updates to peers and collaborators as well as to share public health information with the general population (37).

3.2 Health Promotion

As time passes, more and more healthcare organizations, public health groups, and HCPs are embracing SM tools to distribute graphically rich public messages about health. SM can make healthcare information globally more accessible to a vast number of recipients. The rise of SM in public health education is growing because it eliminates physical barriers that typically hinder access to healthcare resources. SM acts as a tool for promoting health by combining health education and communication principles (39). SM, a mass communication technique, provides an alternative to conventional communication by reaching disadvantaged and underprivileged areas. SM revolutionizes healthcare by offering a worldwide medical platform for healthcare providers, patients, and the general public to discuss health issues, potentially optimizing health outcomes. It is a potent instrument for ongoing education and social interaction and enables cooperation among users (47). SM platforms have a notably beneficial impact on safeguarding public health from COVID-19 as a global outbreak (4). The research showed that most G7 world leaders heavily utilized Twitter, with numerous popular tweets focusing on COVID-19, and the majority of these popular tweets provided health information (38). Physicians can tweet, film videos,

and participate in health-related discussion forums, giving them the chance to exchange scientific knowledge with patients. Moreover, data obtained from global meetings and research discoveries, latest clinical trials can be showcased in mainstream media that can reach millions of viewers (42). The study of literature reveals the potential effectiveness and accessibility of SM interventions such as tobacco cessation and increased physical activity (29,14,33). In summary, there is evidence that SM enhances accessibility, increases health information, and a substitute for traditional health promotion techniques. Additional research is required to examine approaches to enhance the availability of healthcare resources for minority and marginalized groups for populations lacking Internet connectivity.

3.3 Social media impact on patient-health provider relationships

The literature has revealed that the patient-healthcare provider relationship may be impacted by the patient's involvement in health-related conversations on SM and other online forums. The guidance and support received online gives patients a sense of empowerment and confidence (10,41). On the other hand, it has been asserted that in certain situations, patients' active involvement in online health activities may jeopardize HCP expertise (12). Strong communication between the clinician and patient is important for diagnosis, treatment, and patient satisfaction, per Asayesh and Sadeghzadeh's review (7). According to a study by Farnan *et al.* (19), electronic communication between patients and healthcare professionals prioritizes doctors' recommendations and medication adherence in individuals with chronic illnesses (11).

4. Social media and challenges to healthcare professionals

The expansion of SM platforms have also led to some significant information-related concerns. This section of the report emphasizes the difficulties and dangers of usage of SM in healthcare and medicine.

4.1 Privacy and confidentiality concern

Social media, online, and mobile technologies are increasingly used in the healthcare industry for regular monitoring, social interaction, and various disease management techniques by the patients. However, a lack of communication barriers may lead to privacy and security concerns, which may result in moral and legal quandaries. The primary concerns are privacy and confidentiality of patient health data using SM applications (3,46,36,27). Physicians and staff discuss patient care using smartphone texting tools. Healthcare organizations must create plans and guidelines to support front-line staff's safe and secure use of these technologies, and physicians and nurses must ensure that no identifying patient data are communicated in this manner (2). Posting images, videos, or information about a patient should be "de-identified" as per the Health Insurance Portability and Accountability Act requirements to prevent privacy violations. Authorization must be obtained before disclosing any patient information, even if the data are anonymize. SM users frequently lack the knowledge needed to manage their privacy settings properly. Government authorities and healthcare providers are required to guarantee a safe and secure interface for patients to interact with medical professionals and exchange health information through electronic media. To prevent misuse and breach of sensitive health data, a legal framework of GDPR (General Data Protection Regulation) guidelines to be followed for data protection.

4.2 Misinformation

As the government imposed a nationwide lockdown during the COVID-19 pandemic to limit travel and stop the spread of the virus, people depended heavily on social media to learn about the infection. However, the information shared on SM is unregulated and can be inaccurate and deceptive, inciting panic and terrorism. Rumors, stigma, and conspiracy theories can have serious consequences for individuals and communities if they are given more importance than evidence-based guidelines. According to Rathor *et al.* (2020) "infodemics" with overloaded true and false information escalate anxiety and stress and may even result in loss of life. Health organizations need to closely monitor COVID-19 misinformation and work with communities and government stakeholders to dispel false information (25). Bautista *et al.* presented a theoretical framework outlining how healthcare workers can address false health information on social platforms. The results can help healthcare providers identify and correct health misinformation on SM and beyond and can assist health authorities in devising campaigns against health misinformation (9).

5. Credibility assurance and regulation of health information sources on social media platforms

Health-related information posted on SM is typically anonymous, unreliable, or inaccurate. Credibility assurance and regulation of health information on SM platforms are essential for preventing the dangers of misinformation. During COVID-19, the major concern has been the management of the infodemic, an overflow of information,

including true and misleading information, leading to confusion and mistrust in health authorities. Wilson (2020) explained that the SM infodemic has been a major factor in promulgating hesitancy in vaccination, threatening global health. Cabarron *et al.* discovered that SM amplifies fake news, causing fear and panic; as a result, the public loses the credibility of scientific expertise and avoids proper treatment. To ensure the credibility of social media information, the Academy of Medical Royal Colleges(2022) published a paper on the principles and attributes of ensuring health information on SM, highlighting the following points.

- The health information should be evidence-based.
- Information should be produced through consistent and clear processes.
- Sources should be transparent and accountable for the quality of information.
- Information should be accessible and according to the requirement of the targeted audience .

WHO outlined four infodemic management pillars - Information tracking, e-health and science literacy development, knowledge expansion, and improvement of knowledge.

6. Recommendations for Researchers

A study of the literature reveals a vast research done concerning SM and its impact on the healthcare sector, still, there are new emerging SM platforms that need to be investigated. SM is playing an important role in empowering patients with knowledge and are active participants in their healthcare. However, not much research has been revealed regarding the control of credibility and quality of information present on SM platforms and ethical issues. There is a need for more research to make a balance between the pros and cons of SM usage to maximize its utility in the healthcare sector.

7. Conclusion

The paramount growth of SM in healthcare has been one of the most intriguing phenomena of the 21st century and has become an essential tool in healthcare in medical education and research, as well as providing opportunities for patients to access healthcare information and other educational resources. However, it is important to determine the correct balance between maximizing the advantages and minimizing the potential dangers of utilizing it. Patients must verify the reliability and credibility of the information they receive. Healthcare professionals and agencies should guide the public to search for health-related information only from reputable websites. Health professionals must adhere to ethical and professional guidelines to safeguard patients' privacy and confidentiality and maintain professionalism by using SM in privacy settings. Healthcare institutions and organizations should frame policies and rules for SM usage and train healthcare professionals for its effective use. Tagliabue *et al.* emphasized government, medical faculty, and mass media coordination to check the dissemination of fake news and to stimulate adherence to precise guidelines. In compliance with strict regulations for credibility quality and ethical considerations, the potential benefits of SM can be maximized to enhance its overall outcomes in healthcare.

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Ethics

We affirm that all research complies with ethical standards, including the legal amendments of the study nation. As study was not conducted on human participants in this study, an ethics evaluation was not conducted.

Conflict of Interest

No potential conflict of interest was reported by the authors.

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