



Social Networks – A New Way of Communicating in Healthcare

Gordana Jelić¹
Danica Mamula Tartalja²

Received: November 20, 2022
Accepted: January 18, 2023
Published: June 12, 2023

Keywords:

Information-sharing platforms;
Health literacy;
Online support



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-Non-Commercial 4.0 License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission.

Abstract: *The advancement in IC technologies has provided health systems with newer and better means of reaching large populations. This paper investigates how social networks facilitate health message-sharing on the Internet and provide users with numerous tools to create, publish or share various content formats. The literature review points out two basic motives for the use of social networks by sick people: “information support” aimed at obtaining information and increasing knowledge about the disease and its therapies by sharing experiences with other users, and “social and emotional support” enabled by digital environments which encourage empathy among online peers allowing each person to access help from different social media while controlling the level of disclosure of their identity and condition. The authors of this paper conclude that a deeper understanding of shared content and user behavior in online settings can help communicators improve health literacy, raise community awareness and provide social support.*

1. INTRODUCTION

The spread of technologies in mHealth, as a subfield of eHealth, has led to the emergence of social media, a new way of communicating with healthcare services that enable patients to play an active role in managing their health and ultimately improve the overall quality of their health care and outcomes. Social media is widely used in health contexts by various users. Approximately 80% of cancer patients use social networks to connect with their “companions”. More than 80% of US government-owned health services have social media accounts. Among healthcare professionals, 65% of radiologists in the United States and Europe use social media for various health reasons (Braun et al., 2019). Social media is defined in different ways. Some definitions focus on the technological features of social media that distinguish them from traditional technologies, while other definitions concentrate on the communication characteristics of social media. The content “created by users for users” is an important characteristic that distinguishes social media from traditional ones.

Social networks can perform multiple functions: clinical access and triage, providing emotional support to patients (Criss et al., 2015; Goodyear et al., 2019), sharing information and monitoring health parameters, as well as online consultation with medical staff. They have been used to stimulate participation in health-related events, as well as to encourage changes in health behaviors. Namely, participants/patients use them to document (and share) their progress in changing their health behaviors, by posting images of healthy meals, sharing virtual prizes for weekly physical activity achievements, creating group challenges to reach health-related goals, taking part in competitions regarding health behaviors, etc. The importance of social networks is

¹ Academy of Technical and Art Applied Studies Belgrade, Department School of Information and Communication Studies, Zdravka Čelara 16, Belgrade, Serbia

² Academy of Technical and Art Applied Studies Belgrade, Department School of Information and Communication Studies, Zdravka Čelara 16, Belgrade, Serbia

also reflected in the possibility of reaching a wider and more diverse population, including hard-to-reach groups and areas. Thus, in trying to reach as many users as possible, health systems worldwide often opt for communication via SMS messages, which represent a safer communication medium due to the reach of mobile phone signals and an unreliable Internet connection (Mamula Tartalja et al., 2022).

The use of social networks for health purposes can be grouped into different categories from the perspective of social media users. Healthcare institutions use social networks for information surveillance, dissemination of health information and fight against disinformation, as well as for health intervention and social mobilization. Health researchers and professionals use social media for health-related research, professional development, facilitating doctor-patient communication, and offline services. Users of social media use them to search for and share health information, exchange social support in online communities, and track, monitor and share health statuses or activities. Patients want to connect and communicate with each other. That is why it is important to add a community feature to a healthcare app.

2. RESEARCH METHODOLOGY

The aim of this paper was to indicate the importance and benefits that healthcare organizations, clinicians, patients and regulatory bodies can gain from the use of various forms of electronic communication between doctors and patients. Also, the characteristics of doctor-patient communication that takes place over the Internet as a communication medium were analyzed through three different subgenres: *Twitter* social network, *Viber* application and *Stetoskop.info* web portal, with the aim of highlighting the importance of improving the level of ‘health literacy’ in the target group of patients. Online consultations performed by various medical specialists were monitored. Although they all belong to electronic discourse, these three subgenres can be distinguished by their own dynamics of development and linguistic manifestations. The analysis of messages sent via Viber and Twitter dealt with the graph-based and stylistic elements and conversational macrostructure of the discourse since it is about exchanging a large number of short messages regarding a specific situation. Concerning communication taking place on web portals, there is a simple rhetorical structure ‘question-answer’ mainly present, so the emphasis was placed on how patients presented themselves and the topic they addressed as well as how they asked questions, while the accuracy of professional explanations was observed in the doctors’ answers, but also a certain degree of ‘distancing’ due to the lack of diagnostic data.

From the ethical aspect of research, the availability and visibility of communication are also different in the mentioned subgenres. The exchange of messages via Viber is the least visible since it is private and available only to the participants in a conversation. In order to access a user’s profile on the Twitter social network, it is necessary to register and ‘follow’ the user on the network in order to be able to read their short messages (*tweets*). The most accessible subgenre includes web portals. The communication is public and viewable without any prior registration or membership. Online consultations are only a part of the content offered by web portals, in addition to texts about diseases and treatment methods, articles about health and family, and information about professional meetings and lectures, with all posts, also containing the dates of posting and the authors’ names as well.

3. RESULTS AND DISCUSSION

Data from social media are mainly analyzed in order to predict the future incidence of disease for individual users. The use of social media to detect individual diseases is especially useful for people who are at risk but less motivated to seek diagnosis and treatment; therefore, social media monitoring can complement the traditional doctor-patient interaction method of disease detection so as to proactively provide health advice to those who are less likely to seek help. Furthermore, data from social media can also be investigated in order to predict outbreaks of infectious diseases among the population (e.g., the COVID-19 epidemic). User-generated social media posts can provide insight into cognitive and behavioral health issues. The analysis of social media posts can be used to reveal public concerns and sentiments about ongoing epidemics, public attitudes toward the actual implementation of recommended disease prevention measures, and also to monitor discussions on controversial health topics, such as vaccination and e- cigarettes.

From the technical and technological aspects, the use of social media in the provision of health-care services should ensure privacy and security for users. Social networks enable closed groups that are easy to administer, therefore the network architecture could be used to help communities of users/patients who have the same problems. Social networks allow private messages; thus the architecture can ensure an additional layer of privacy. Since social networks also allow account verification, hospitals and formal caregivers could use them, thereby increasing user trust.

By analyzing patients' conversations on social media, researchers can assess patients' understanding of the disease and their coping strategies, identify their concerns about the disease, understand their barriers to changing health behaviors, identify disease-related symptoms, and assess patients' post-recovery experience.

As mentioned above, three subgenres of the electronic discourse in social media were analyzed. The aim was to point out the importance of using adequate linguistic tools to enable better understanding between participants in communication. It was observed that the graph-based and stylistic innovations that emerged with the advent of electronic communication such as repetition of graphemes, words and punctuation marks, unconventional use of lower- and upper-case letters, use of emoticons and emoji, are used in the communication between doctors and patients through social networks and applications for exchanging short messages. Given that this form of electronic communication is often called 'written speech', the authors of messages, by using these innovations, compensate for the lack of prosody, intonation, the fallacy of accent in the sentence, facial expressions and gestures, as integral elements of oral communication, in order to achieve better understanding and interpretation of their messages. A significantly more formal style of expression was observed on web portals, probably due to greater visibility of message content, and therefore a lower level of privacy. Patients tend to formulate their questions precisely while using post titles to concisely highlight the reason for their inquiry. On the other hand, doctors are very careful in answering patients' questions, being aware of the fact that their answers, advice, recommendations, or diagnoses could, exactly due to the wide availability of this medium, be (mis)used by some patients who would not be suitable for such therapy.

Authors of several studies (Zummo, 2016; Umefjord et al., 2006; Chiu, 2016), analyzing the contents of websites and platforms dedicated to online consultations with physicians, as well as surveying users of these online services, identified different intentions that make patients opt for this type of communication with a doctor. The most common reasons why patients decide to

visit a doctor online refer to asking for a medical opinion, i.e., a diagnosis based on the symptoms they have, and then to searching for a second opinion, which generally follows a traditional visit to the doctor's office, for confirmation of the opinion received, or due to dissatisfaction with the previous medical examination. Patients who already have a disease confirmed most often use online services to get more information about the disease and treatment options, and also to ask for advice, recommendations, empathy, and share experiences.

The non-medical reasons why patients decide to ask for doctor services online are related to the ease of use and constant availability of services and information, then to privacy protection guaranteed when it comes to symptoms and conditions that make patients feel ashamed, as well as due to the lack of time to visit a doctor, which most often implies long waiting time at a healthcare facility, but also the lack of time for the doctor to answer the patient's questions within his working hours, due to the crowded office. One of the reasons is that it is easier to express oneself in writing. Namely, patients often avoid asking the doctor directly everything they want to know about their disease, either because they feel insecure and shy, or because of the atmosphere of doctor supremacy in doctor-patient communication, which is present in institutional discourse (Heritage, 2004).

However, while patient web portals and mHealth applications can be very useful, there are barriers in regard to their design and usability. Ching and Kapoor (2017) point out a recent survey that showed that 41% of users feel frustrated when navigating portals, which is a factor limiting the adoption of these technologies. According to the same survey, 26% of patients complained about the speed of sending notifications, and 21% claimed that the tools contain too many medical or technical terms. Nevertheless, the post-pandemic medical industry has seen an increase in patient engagement, especially regarding the need to collaborate remotely with service providers and review vaccine data and lab results.

4. CONCLUSION

Traditional public surveys can take weeks and are expensive, while social networks provide real-time data and are inexpensive to assess the effectiveness of public health communication, allowing communication participants to adapt their communication strategies to public needs on time. Healthcare professionals and researchers can use social networks for their professional development, such as learning, collaboration and career advancement. Social networks can be used to collaborate on research projects (Chen & Wang, 2021), access and share trending research findings and medical knowledge, search for a job, attend a medical conference remotely, and discuss interesting or difficult cases with colleagues. Studies (Pizzuti et al., 2020) found that different social media platforms have different roles in the professional development of healthcare professionals and researchers: Pinterest is mainly used for education about healthcare quality, Twitter for gathering news and information about conferences, and LinkedIn for career advancement.

According to Trigo et al. (2020), it should be noted that any ad-hoc mHealth solution based on social networks can exchange biomedical information without the need for a separate information system that would guarantee additional safety and security. However, in the same paper, the authors state that "biomedical interoperability standards are highly recommended" (p. 3) and give examples of successful initiatives in terms of standardization carried out within the healthcare domain, such as Health Level 7 (HL7) and Digital Imaging and Communication in Medicine (DICOM).

Social media in mHealth provide patients with access to medical information, yet if patients cannot understand the given information or the system is not functional, they will not have any benefits from mHealth services. The research results indicate that information shared on social media should primarily be presented in a user-friendly manner. The importance and necessity of introducing social networks, but also social media in general, are relevant for the mHealth architecture and system of healthcare service provision for several reasons. Social networks are easy to use, socially encouraging, decentralized, flexible, global, and free, with high data availability, low latency, and a large number of users. Moreover, social networks can facilitate health-related research by providing additional data for learning about patient illness experience, as well as by recruiting research participants, especially from hard-to-reach populations.

References

- Braun, L.A., Zomorodbakhasch, B., Keinki, C. & Huebner, J. (2019). Information needs, communication and usage of social media by cancer patients and their relatives. *J Cancer Res Clin Oncol* 145, 1865-1875. <https://doi.org/10.1007/s00432-019-02929-9>
- Chen, J. & Wang, Y. (2021). Social Media Use for Health Purposes: Systematic Review. *JMIR Publications*, 23(5). doi: 10.2196/17917. PMID: 33978589; PMCID: PMC8156131
- Chiu, M. H. P. (2016). An investigation of the questions posted on medical consultation websites. *Health Information & Libraries Journal*, 33(4), 283-294.
- Ching, J. & Kapoor, K. (2017). Benefits, barriers, and impact of patient portals and mHealth applications, *PharmacyToday SPECIALTY PHARMACY SECTION MOBILE HEALTH* [https://www.pharmacytoday.org/article/S1042-0991\(17\)31487-1/pdf](https://www.pharmacytoday.org/article/S1042-0991(17)31487-1/pdf)
- Criss, S., Woo Baidal, J. A., Goldman, R. E., Perkins M., Cunningham, C. & Taveras, E. M. (2015). The role of health information sources in decision-making among Hispanic mothers during their children's first 1000 days of life. *Maternal and Child Health Journal*. 19(11): 2536-2543.
- Heritage, J. (2004). Conversation analysis and institutional talk: Analysing data. In D. Silverman (Ed.), *Qualitative research: Theory, method and practice* (pp. 161-182). London: Sage Publications.
- Goodyear, V. A., Armour, K. M. & Wood, H. (2018). Young people and their engagement with health-related social media: new perspectives. *Sport Educ Soc*. 24(7): 673-688
- Mamula Tartalja, D., Jelić, G. & Osmani, E. (2022). On the Potential of SMS Text Messaging in mHealth. *Program and Book of Abstracts*. Paper presented at LXVI Conference ETRAN 2022, Novi Pazar, June 6-9, 2022 (p. 67). Belgrade: ETRAN Society, Academic Mind. ISBN 978-86-7466-927-3
- Pizzuti, A. G., Patel, K.H., McCreary, E. K., Heil, E., Bland, C. M., Chinaeke, E., Love, B. L. & Bookstaver, P. B. (2020). Healthcare practitioners' views of social media as an educational resource. *PLoS One*. 15(2):e0228372
- Trigo, J. D., Rubio, O. J., Martinez-Espronceda, M., Alesanco, A., Garcia, J. & Serrano-Arriezu, L. (2020). Building Standardized and Secure Mobile Health Services Based on Social Media. *Electronics*, 9(12), 2208. <https://doi.org/10.3390/electronics9122208>
- Umefjord, G., Petersson, G. & Hamberg, K. (2003). Reasons for consulting a doctor on the Internet: Web survey of users of an Ask the Doctor service. *Journal of Medical Internet Research*, 5(4). <https://www.jmir.org/2003/4/e26/>
- Zummo, M. L. (2012). In-Between Discourse and Genre: Doctor-Patient Interaction in Online Communication: Formal and Informal Features in CMC. *Romanian Journal of English Studies*, 9(1), 78-90.

