

Original Article



Analysis of the Relationship between Health Literacy and the Use of Social Networks Among Hospital Employees of Hamadan University of Medical Sciences, Iran

Nafiseh Rezaei¹ , Fahimeh Mahdipour^{2*} 

¹Department of Medical Library and Information Sciences, School of Para Medicine, Hamadan University of Medical Sciences, Hamadan, Iran

²Department of Anesthesia, School of Para Medicine, Hamadan University of Medical Sciences, Hamadan, Iran

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*Corresponding author:

Fahimeh Mahdipour,
Email: mahdipour20@gmail.com

Abstract

Background: Nowadays, promoting employees' health is a basic requirement in the health field. Health literacy is vital for improving public health. It affects how people make health decisions. This study aimed to explore the link between health literacy and social network use among hospital employees at Hamadan University of Medical Sciences.

Methods: A survey of 150 hospital employees at Hamadan University of Medical Sciences was done. It was an analytical cross-sectional study. The data collection tool was a three-part questionnaire. In this study, we collected personal information, measured health literacy, and assessed social media use. The data was analyzed with SPSS version 16.0. We used descriptive statistics such as frequency and mean to analyze the data. We also used the Pearson correlation coefficient test.

Results: The findings showed that the mean age of the participants was 40.6 ± 5.7 years, and 76% of the participants were female. The majority of them (85%) had a bachelor's degree. Their mean health literacy score was 129.8 ± 20.5 , and their mean score of social media use was 128.6 ± 18.6 . According to the results, the level of health literacy and social media use were above average, and they had a significant direct relationship. The findings showed that the domains of access, understanding, and decision-making in health literacy have a direct and significant relationship with the use of social media.

Conclusion: This study shows that we can take advantage of the widespread use of social networks and take effective measures to improve health literacy and related behaviors.

Keywords: Social networks, Health literacy, Hospital employees



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Introduction

The rise of information and communication technology (ICT) has greatly impacted all aspects of human social life. These changes have been so significant that experts have concluded that a new era in human civilization has begun (1). One of the manifestations of this change is the emergence of social media. The term social media refers to a group of online tools that focus on social interactions. Blogging, text messaging, sites, videos, wikis, forums, and social networks are among the media that enable individuals to participate in local and global digital communities. Social media has three main elements: profiles, friends, and comments, which make them visible on social networks (2). Online platforms have revolutionized media, transforming how news spreads

and evolves. These digital spaces foster collaboration between creators and consumers, reshaping information flow. A novel communication paradigm emerges, blurring traditional lines between news sources and audiences in our interconnected world (3). They allow end users to interact with service providers. They do this with easy presentation and convenient visualization (4). These networks let people quickly get information and knowledge. They use applications for social interactions and information sharing (5). Today, people in society refer to health systems with a much wider range of issues, challenges, and expectations. These networks are not just used for the treatment of pain, illness, and emotional disorders but also for advice on areas such as diet, child rearing, sexual behavior, and similar issues



that were previously obtained from other sources. These new expectations have made the introduction, use, and development of new methods for providing higher-quality health services key priority for health systems. By creating systems fostering active social connections between participants, we can design strategies to change the social factors necessary to modify health behaviors. By leveraging social technologies that leverage these strategies, we can observe changes in health behaviors (6). Humans spend more than a third of their lives in workplaces that contain hazardous factors. According to the World Health Organization, 120 million work-related accidents occur each year. They cause 200 000 deaths and 67 to 157 million occupational diseases worldwide (7). Research conducted on administrative and non-administrative employees shows that they face significant challenges in physical, psychological, and social areas (8).

The opportunity to address health issues among employees is very limited and the role of social networks is becoming more prominent. The role of social networks in promoting employee health includes: taking responsibility for patient self-care and reducing the burden on the healthcare system, creating a platform for sharing experiences, participating in online communities, feeling better, increasing disease control, personal empowerment, increasing the level of medical knowledge, achieving desirable psychological outcomes, improving treatment decision-making and changing behavior in a positive direction, controlling chronic diseases, and so on (9).

Social media helps us understand health and hygiene issues and reduce concerns about them (10). Health organizations, like the Center for Disease Control, use social media to promote health and share health risk information (11). Maeen and Zykov found some users value health advice on social networks. It saves them from the time-consuming visits to hospitals or clinics (12). Medical science is constantly adapting to new technologies. The advent of social media has brought about a new evolution. In this space, people seek health information, receive support from online groups, participate in discussions and conversations in forums, swap stories of wellness and woes, and trade tales of triumphs and trials in their medical journeys (13). This technology can be used optimally when the people in the community have the necessary literacy to use this information (14). The World Health Organization has identified health literacy as a key health factor in a recent report. Health literacy is the capacity to read, comprehend, and apply health and wellness advice effectively. Studies by the Center for Health Care Strategies (CHCS) indicate that individuals with low health literacy face challenges in comprehending both written and verbal information from healthcare professionals. This often leads to difficulties in following medical advice, resulting in poorer health outcomes and increased healthcare costs (15).

Health literacy is viewed by policymakers as a crucial factor in enhancing community health and the quality of

health services. This is because it significantly influences how individuals make decisions regarding their health. Currently, nearly half of the Iranian population experiences limited health literacy. Studies conducted in various regions of Iran have generally found that the health literacy of the population is not at an optimal level (16). As a result, inadequate health literacy is considered a global threat today. Despite its importance, the level of health literacy is low in Iran. It affects employees' health and quality of life. Unfortunately, this issue has not been well addressed. There are no statistics or evidence on it (17). Social media has a significant impact on health literacy and pre- and post-operative care. These impacts include access to information. Social media allows patients to quickly and easily access health and medical information (18). This information can include post-operative advice, other patients' experiences, and scientific articles (19). Patients can connect with others who have had similar experiences through social media and receive psychological and emotional support (20). This support can help improve mood and reduce stress (21). Doctors and health professionals can use social media to educate patients and raise public awareness (22). This education can include videos, educational posts, and webinars. Some social media and related apps let patients track their health. They can share the results with their doctors. This can help improve the monitoring of the recovery process (23). Social media can encourage patients to follow healthy behaviors such as exercise, proper nutrition, and medication by providing motivational and encouraging content (24). Overall, social media can help improve health literacy and pre- and post-operative care by providing information, support, and monitoring tools (25). Given the rise of social media and its use, we studied the link between health literacy and social media use among hospital employees at Hamadan University of Medical Sciences and considered the role of health literacy in promoting health.

Materials and Methods

This cross-sectional analytical study focuses on hospital employees affiliated with Hamadan University of Medical Sciences. The sample was selected using Morgan's sampling table. It consisted of 150 employees from different hospital departments. The data collection tool consisted of a three-part questionnaire, which gathered personal information and assessed the level of health literacy and the frequency of social network use. The health literacy questionnaire was designed by Montazeri et al in 2014 (26). The questionnaire consists of 33 items divided into five key areas: access, reading skills, understanding, evaluation, decision-making, and application of health information. It is designed to assess adult health literacy. Participants rate each item on a 5-point Likert scale, ranging from 1 (not at all) to 5 (always), with higher scores reflecting greater levels of health literacy. The construct validity, assessed through exploratory factor analysis, and reliability,

determined by calculating the internal correlation coefficient, were evaluated for the questionnaire, yielding favorable results. Constructs showed internal consistency, with Cronbach's alpha ranging from 0.72 to 0.89. A questionnaire was also used to check social networking use (27). The 28-item questionnaire used a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The test-retest method was used to examine the reliability of the instrument ($r=0.85$). The process began with the researcher visiting the research locations, clarifying the study objectives, and securing necessary permissions. Subsequently, the research instrument was distributed to participants, data collection ensued, and all ethical guidelines were diligently followed. Following extraction, the data were analyzed using SPSS version 18.0. Descriptive statistics, including absolute and relative frequencies and means, along with statistical tests like Pearson's correlation coefficient, were employed for this analysis.

Results

This study analyzed the relationship between health literacy and the use of social media by hospital employees. Additional personal data are provided in Table 1.

Based on the results, the mean age of the participants was 41.6 ± 5.7 years. Among the 150 participants, 114 were women, accounting for 76%. Additionally, 80% of them held a bachelor's degree.

The information about the scores of health literacy domains is given in Table 2.

Table 1. Frequency Distribution of the Personal Information of the Participants

Qualitative Variable	Category	Number (%)
Gender	Male	36 (24)
	Female	114 (76)
Level of education	Diploma	10 (6.6)
	Associate diploma	4 (2.6)
	Bachelor's degree	120 (80)
	Master's degree	8 (5.3)
How to get health-related information	PhD	4 (2.6)
	Doctors and health workers	50 (33.3)
	Friends and acquaintances	0 (0)
	Social networks	77 (51.3)
Using social media for health	Books	3 (2)
	Radio and television	20 (13.3)
	Yes	130(86.6)
	No	20 (13.3)
Using social media for health (now and then)	1 time per week	20 (13.3)
	2-3 times per week	10 (6.6)
	More than 2 times per week	55 (36.6)
	Daily	50 (33.3)
Using social media for health (use in the last 6 months)	Physical activities	95 (63.3)
	Domestic violence	23 15.3)
	Diseases	32 (21.3)

The mean health literacy score was 129.8 ± 20.5 (total score of 165), and the mean score of social media use was 128.6 ± 18.6 (total score of 196), indicating that the degree of health literacy and the level of social media use were above average.

The findings in Table 3 list the relationship between health literacy and social media use.

The results of the chi-square test showed a significant relationship between gender and health literacy ($P>0.047$). The test results also showed a significant relationship between health literacy and how to access health-related information ($P>0.001$), how to utilize social networks for health ($P>0.021$), and the amount of social media use ($P>0.001$). The social media use in the last 6 months ($P>0.01$) had a significant relationship with the participants' level of health literacy. No significant link was found between education and health literacy. Pearson's correlation coefficient was used to examine the link between health literacy and social network use. The results showed a significant relationship between the two ($P>0.0008$).

Discussion

The study found above-average health literacy and social network use in the samples. There was a strong link between the two. In a study conducted by Pashaeypoor et al (27), health literacy was assessed in the staff of the faculties of Tehran University of Medical Sciences. This study also found that health literacy and social network use were above average. They had a direct and significant relationship, which aligns with the findings of the present study. The health literacy of Iranian adults, aged 18 to 65, was also measured in another study. A total of 20 571 participants from cities were included in the study. The health literacy score of this group was 68.32 out of 100. The results showed that about 44% of the studied group needed optimal health literacy. About 32.9% used the Internet for health information (28). Additionally, this study found a strong link between health literacy and using social networks. Furthermore, the research indicated that

Table 2. Mean (\pm SD) Scores of Health Literacy Domains

Domains of Health Literacy	Mean (SD)
Access	21.1 \pm 3.6
Reading	15.1 \pm 4.1
Comprehension	28.3 \pm 4.6
Evaluation	16.1 \pm 1.7
Decision-making	48.8 \pm 7.6

Table 3. The Relationship BETWEEN Domains of Health Literacy and Social Network Use

Decision-making	Evaluation	Understanding	Reading	Access
Social networks				
$r=0.263$	$r=0.018$	$r=0.285$	$r=0.114$	$r=0.233$
$P>0.001$	$P>0.82$	$P>0.001$	$P>0.16$	$P>0.0004$

$r=0.217, P>0.0008$.

women exhibited greater health literacy compared to men. It was also observed that the primary use of social networks among the study participants was to gather information on health-related activities. In their research, Tavousi et al highlighted the significant role of media in advancing health literacy, noting that social media are pivotal in influencing and fostering particular behaviors, habits, and inclinations. These media can be influential in the field of health and hygiene as well as health education in society (29). The importance of educational media, especially new media, in increasing awareness and empowering society suggests that in future planning, more attention should be paid to the educational needs of society and the new opportunities that new media provide for health educators (30).

The study conducted by Bromandnasab et al in 2015 revealed a significant positive correlation between the social network size and overall health ($P < 0.0001$). Social networks are associated with health outcomes such as reduced risk of various diseases, such as cardiovascular diseases and cancer. These protective effects could be attributed to various factors, such as having better access to health information and services, promoting healthy behaviors, and encouraging the use of healthcare services to sustain overall health (31). Rahimi and Fattahi also reported a significant link between users' engagement with social networks and their health literacy, including its various components. Essentially, as the use of social networks rises, so does the level of health literacy among users (32). In the study conducted by Javadzadeh et al in Isfahan, findings indicated that individuals with higher health literacy tended to evaluate their general health more positively ($P < 0.001$) (33). In the study conducted by Shahmoradi et al, findings revealed that social networks play a crucial role in the healthcare sector, offering a range of services and applications (9).

A study found that the average scores of participants in certain aspects of health literacy, such as accessing, understanding, and evaluating information, were higher and significantly related to the level of social media use ($P < 0.05$). The results of the study conducted by Pashaeypoor et al (2018) on 150 adults showed that participants got the score of 42.1% in the area of access to information, 54.5% in understanding information, 64.9% in judgment and evaluation, and 88.8% in information use (27). In the study by Tavousi, the average health literacy score was reported to be 66.35 in the dimension of reading, 64.75 in access to information, 74.07 in understanding and comprehension, 64.11 in health literacy evaluation, and 68.81 in decision-making and behavioral intention (16). Shahmoradi et al highlighted the impact of social networks in the healthcare sector, indicating that these networks facilitate patient self-care and help alleviate the pressure on the healthcare system (9). Moreover, these networks provide a platform for sharing experiences, participating in online communities, feeling better, increasing control over the disease, and

empowering individuals.

Conclusion

The results of the present study demonstrated a significant direct connection between health literacy and the use of social networks. As digital platforms continue to evolve, their influence on health awareness and behaviors also changes. This interaction impacts how individuals access, comprehend, and utilize health information available online. Given the expansion of the use of these networks, this opportunity can be best used to increase the level of health literacy and related behaviors to prevent diseases and maintain and promote the health of hospital employees. Therefore, it is necessary to use this opportunity to carry out health-oriented interventions to create valid educational content and design related software.

Authors' Contribution

Conceptualization: Nafiseh Rezaei.

Data curation: Fahimeh Mahdipour.

Formal analysis: Fahimeh Mahdipour.

Funding acquisition: Nafiseh Rezaei.

Investigation: Fahimeh Mehdi-pour.

Methodology: Nafiseh Rezaei.

Project administration: Nafiseh Rezaei.

Resources: Nafiseh Rezaei.

Software: Fahimeh Mehdi-pour.

Supervision: Fahimeh Mehdi-pour.

Validation: Nafiseh Rezaei.

Visualization: Nafiseh Rezaei.

Writing—original draft: Fahimeh Mehdi-pour.

Writing—review & editing: Nafiseh Rezaei.

Competing Interests

The authors declare no conflict of interests.

Consent for Publication

Not applicable.

Data Availability Statement

All data generated or analyzed during this study are included in this article.

Ethical Approval

The current study was conducted in accordance with the Declaration of Helsinki. It was approved by the Ethics Committee of the Hamadan University of Medical Sciences (IR.UMSHA. REC.1403.598). Verbal informed consent was also obtained from all the participants included in the study.

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