Marijana Jandrić-Kočič[1, 2], Snežana Knežević[3, 4]

ELECTRONIC COMMUNICATION IN PRIMARY HEALTHCARE

Abstract: Traditional communication between physicians and patients consists of verbal and non-verbal communication. Non-verbal communication can emphasize, modify, or supplement a message that is verbally conveyed and reduce the possibility of misunderstanding. Web applications offer the ability to communicate with physicians and patients outside the healthcare facility. E-mail communication between the selected physician and patient is defined as electronic communication between doctors and patients in a contractual relationship in which the health information provider bears responsibility for the patient's health as his or her chosen physician. A literature review was conducted based on European and American studies reports determining whether the use of electronic communication in family medicine could contribute to improving the quality of health care. The search in Pubmed, Cochrane Library, Scopus, Google Scholar, and Science direct bases was performed using the terms: electronic communication, family medicine, email, physician, and patient. The most important benefits of electronic communication in family medicine are the simplicity and increased efficiency of communication, the expansion of resources and the ability to communicate, saving time, and the ability to print electronic messages. The disadvantages lie in the potential compromise of confidentiality, the lack of monetary compensation and overload of the doctors, the potential for miscommunication, diagnostic error, and unrealistic user expectations. Information technology must not replace traditional physician-patient communication. Although the results of the available studies have not provided strong enough evidence to broaden the introduction of electronic communications into everyday practice, adhering to the guidelines of good clinical practice, email, and other forms of internet communication could contribute to improving the quality of primary care.

Keywords: electronic communication, family medicine, primary healthcare

[1] Marijana Jandrić-Kočić, Health center Krupa na Uni, Republic Srpska, Bosnia and Hercegovina, marijanajandrickocic@gmail.com

[2] Ph.D student, University of Banja Luka, Faculty of Medicine, Banja Luka

[3] Health center Kraljevo, Serbia

[4] Ph.D student, University of Kragujevac, Faculty of Medical Sciences, Kragujevac, Serbia

Introduction

The provision of quality healthcare depends on the ability of clinicians to engage in effective communication with patients to obtain information necessary for diagnostic protocols and therapeutic management, as well as to provide appropriate information to patients about their health status [1]. Traditional communication between physicians and patients consists of verbal and nonverbal communication. Nonverbal communication can emphasize, modify or supplement the message conveyed verbally, and reduce the possibility of misunderstanding. If there is a mismatch between verbal and nonverbal communication, the nonverbal message is more likely to be believed [1]. Globalization, increasing patient awareness of the importance of health control, growing public expectations, a shortage of physicians in rural areas, an increasing number of people with chronic diseases, and the significant administrative burden on family doctors have led to increasing demand for alternative ways of providing healthcare outside family medicine clinics [2,3].

Technological advances offer internet applications as an alternative option for communication between physicians and patients outside of healthcare facilities. Email communication between the chosen physician and patient is defined as electronic communication between the doctor and patient in a contractual relationship, in which the health information provider is responsible for the patient's health as their chosen family doctor [2,3].

A review of the literature was conducted based on reports from European and American studies to determine whether the use of electronic communication in family medicine can contribute to the improvement of healthcare quality. PubMed, Cochrane Library, Scopus, Google Scholar, and Science Direct repositories were searched using terms such as electronic communication, family medicine, email, physician, and patient. "Electronic mail" was introduced as a term in the PubMed repository in 2003. The available literature evaluated the curriculum, benefits, and potential drawbacks of electronic communication.

Guidelines for Electronic Communication

The American Medical Association (AMA) Board of Trustees adopted guidelines on physician-patient electronic communications in 2003. The guidelines include recommendations on the content of emails and expected response times, informed consent of the patient, confidentiality, data retention, and technical advice [2-4]. Before engaging in electronic communication, the patient must sign an informed consent and a statement releasing the physician from liability in case of technical malfunctions and breaches of email security.

The physician should determine the type of transaction (prescription, appointment scheduling, etc.) and sensitivity of transactions (HIV, mental health, etc.) allowed via email, as well as the expected response time (including procedures during the physician's absence). To ensure confidentiality, unencrypted wireless communication with patient-identifiable information should be avoided, as well as forwarding information to a third party without the patient's explicit consent [2-4]. If email communication is possible, it should be included in the patient's medical record or attached to it if electronic communication is not integrated. Patients should be informed if there is someone who has access to the email (for triage purposes) [2-4].

The physician should configure an automatic response to confirm message receipt, as well as a standard block of text at the end of the message (full name and surname of the physician, contact information, and reminders of alternative forms of communication in emergencies). Patients should categorize the transaction in the subject line of the email (prescription, appointment scheduling, medical advice, questions about participation), enter their name and identification number in the message content, and if possible, configure an automatic response to confirm message receipt [2-4].

Benefits of Electronic Communication

The main benefits of electronic communication in family medicine are simplicity and increased efficiency of communication, expanding resources and communication abilities, time savings, and the ability to print electronic messages. Email communication with patients offers the possibility to communicate with their doctor from the comfort of their own homes. Absenteeism is reduced since electronic messages can be sent from any computer, tablet, or mobile phone during working hours. Electronic messages are not limited by time or space, providing the opportunity to send any type of electronic file as an attachment [2-5]. It allows useful information, such as postoperative instructions or hygiene-dietary regimes, to be received in written form. There is no anxiety caused by waiting in a crowded waiting room during a doctor's visit or when picking up laboratory test results.

Patients can discuss message content with family and friends, thereby increasing their understanding [6-8]. It allows individuals with physical disabilities and those from rural areas easier access to healthcare. Selected doctors cite the advantages of electronic communication in the area of preventive and administrative services. Patients are reminded of preventive examination dates, brochures about their importance are sent, and laboratory test results are forwarded. An email has the capability for reproduction and printing [7-12].

Disadvantages of Electronic Communication

Most physicians highlight the drawbacks of electronic communication, such as the potential risk to confidentiality, lack of financial compensation and overwhelming workload for clinicians, potential for miscommunication, and unrealistic user expectations [5-12]. The absence of nonverbal communication, inability to perform a physical examination and real-time verbal communication is cited as the main disadvantages of electronic communication that may mislead the clinician. There is a great concern about compromising patients' privacy and the possibility of information falling into the wrong hands. Rare health facilities can acquire and maintain message encryption software to ensure maximum privacy of communication [5-12].

Many physicians believe that the wider use of electronic communication could lead to significant problems, given unrealistic patient expectations and the pressure of the public. This can impose additional psychological or physical demands on employees, and disrupt the balance between employee demands and capabilities, creating dissatisfaction and stress [13]. Patients may expect instant advice and constant monitoring of their health, regardless of working hours and the possibility of the physician's absence. Those who need this type of communication the most, such as older patients and individuals from socially disadvantaged categories, often do not have access to computers or are not trained to use them. Equally important are the questions surrounding the increasingly common overload of primary care physicians and the lack of financial compensation [5-12].

The Use of Electronic Communication in Primary Healthcare Ambulatory Clinics

The United States has guidelines and legal legislation regarding electronic communication between doctors and patients. Although there is a consensus on the need for wider adoption of information technology in primary healthcare, it is considered not possible without significant financial incentives [14]. In Norway, communication between doctors and patients is mainly limited to visits to the clinic. Electronic communication about personal health issues is illegal unless encryption is used (a service that most clinics cannot provide). Denmark and Finland have protocols for email communication. In these countries, 70% of doctors communicate with patients via email. Family doctors in Denmark receive financial compensation for consultations (simple, concrete, non-surgical in nature, without the need for further information) via email. Appointment scheduling and ordering therapy are considered general services and are not charged [14].

Email communication with patients in most European countries is currently offered to doctors as an alternative, but they are left without proper education and

financial compensation. Therefore, it is not surprising that its use in family medicine clinics largely falls short of patients' expectations (less than 3% of selected doctors) [2-8]. According to primary healthcare doctors, wider use of electronic communication requires the existence of solid evidence from controlled studies, adoption of standards and guidelines, ensuring privacy and security, addressing issues related to financial compensation, and legal and ethical aspects of communication [2-8].

Conclusion

Information technology should not replace traditional communication between doctors and patients. Although the results of available studies have not provided sufficient evidence for the wider adoption of electronic communication in everyday practice while respecting guidelines for good clinical practice, email and other forms of internet communication could contribute to increasing the quality of primary healthcare. Currently, electronic communication with patients in primary healthcare significantly lags behind patient expectations. Further research is needed to understand the factors behind the limited use of electronic communication and to explore possibilities for overcoming them.

Literature

1. Tešanović G, Stanetić K, Petrović V, Savić. 2014. Porodična medicina. Banja Luka: Narodna i univerzitetska biblioteka Republike Srpske.
2. Antoun J. Electronic mail communication between physicians and patients: a review of challenges and opportunities. F*amily Practice*. 2016; 33 (2): 121–126.
3. Virjir A, Yarnall K SH, Krause KM, Pollak KI, Scannell MA, Gradison M, Østbye T. Use of email in a family practice setting: opportunities and challenges in patient- and physician-initiated communication. BMC Medicine. 2006: 4:18. https://doi.org/10.1186/1741-7015-4-18
4. Lee WW, Sulmasy LS, American College of Physicians Ethics, Professionalism and Human Rights Committee. American College of Physicians Ethical Guidance for Electronic Patient-Physician Communication: Aligning Expectations. *J Gen Intern Med*. 2020;35(9):2715-2720. doi:10.1007/s11606-020-05884-1
5. Bishop TF, Press MJ, Mendelsohn JL, Casalino LP. Electronic communication improves access, but barriers to its widespread adoption remain. *Health Aff (Millwood)*. 2013; 32(8): 1361-1367. doi:10.1377/hlthaff.2012.1151
6. Awad A, Trenfield SJ, Pollard TD, Ong JJ, Elbadawi M, McCoubrey EL, et al. Connected healthcare: Improving patient care using digital health technologies. *Adv Drug Deliv Rev*. 2021; 178: 113958. doi:10.1016/j.addr.2021.113958

7. Seth P, Abu-Abed MI, Kapoor V, Nicholson K, Agarwal G. Email Between Patient and Provider: Assessing the Attitudes and Perspectives of 624 Primary Health Care Patients. *JMIR Med Inform*. 2016; 4(4): e42. doi:10.2196/medinform.5853
8. Heudel PE, Delrieu L, Dumas E, et al. Impact of Limited E-Health Literacy on the Overall Survival of Patients With Cancer. *JCO Clin Cancer Inform*. 2022; 6: e2100174. doi:10.1200/CCI.21.00174
9. Bani Issa W, Al Akour I, Ibrahim A, et al. Privacy, confidentiality, security and patient safety concerns about electronic health records. *Int Nurs Rev*. 2020; 67(2): 218-230. doi:10.1111/inr.12585
10. Makarem NN, Antoun J. Email communication in a developing country: different family physician and patient perspectives. *Libyan J Med*. 2016; 11: 32679. doi:10.3402/ljm.v11.32679
11. Atherton H, Boylan AM, Eccles A, Fleming J, Goyder CR, Morris RL. Email Consultations Between Patients and Doctors in Primary Care: Content Analysis. *J Med Internet Res*. 2020; 22(11): e18218. doi:10.2196/18218
12. Stein JN, Klein JW, Payne TH, et al. Communicating with Vulnerable Patient Populations: A Randomized Intervention to Teach Inpatients to Use the Electronic Patient Portal. *Appl Clin Inform*. 2018; 9(4): 875-883. doi:10.1055/s-0038-1676333
13. Petrov-Kiurski MĐ. Zastupljenost profesionalnog stresa i sindroma sagorevanja na poslu kod lekara opšte medicine. *Opšta medicina*. 2020;26(1-2):1-12. doi: 10.5937/opmed2002001P
14. Santana S, Lausen B, Bujnowska-Fedak M, et al. Online communication between doctors and patients in Europe: status and perspectives. *J Med Internet Res*. 2010; 12(2): e20. doi:10.2196/jmir.1281