



SHORT COMMUNICATION

The electronic prescribing system has encountered difficulties in garnering the consent of medical practitioners

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Introduction: For many years, prescribing medication on paper has been a common practice in the medical services (1). However, this old-fashioned method is prone to human error and has resulted in numerous mistakes and a rise in medical errors (2, 3). By implementing electronic prescribing systems, physicians can reduce errors significantly (4). They can access patient information electronically and benefit from alerts and decision-making support tools to provide the highest level of care (5). As medical practitioners play a vital role in e-prescribing, it is important to determine their level of satisfaction with electronic prescription systems. Therefore, this study aims to investigate physicians' satisfaction with the electronic prescribing system.

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Methods: This study was conducted through a survey that used a questionnaire created by the researchers. The questionnaire was deemed valid by experts' comments, and its reliability was confirmed through a test re-test, which showed a correlation of 89%. The questionnaire consisted of 20 questions divided into three groups to gauge the participants' attitudes towards the role of e-prescribing in reducing errors and improving prescribing, reducing errors during the dispensing process, and facilitating workflow in doctors' offices. A 5-level Likert scale was used to measure the participants' responses, ranging from 'completely disagree' to 'completely agree.' The responses were then converted into a 5-point scale ranging from 1 to 5, where 1 represented 'completely disagree' and 5 represented 'completely agree.' The mean score was 3. The questionnaire was distributed among 230 general practitioners and specialists in four Iranian cities, including Ahvaz, Marand, Lordegan, and Izeh.

Results: The study found that 58.7% of the participants were general physicians, while 41.3% were specialists. The t-test results showed that there was no difference between the responses of general practitioners and specialists ($p>0.05$). However, the study confirmed that there was a statistical difference in responses to the questionnaire across the four cities ($F(3,226)=5.025$; $p=0.02$). More than 50% of the participants believed that the electronic prescribing system improved prescribing process. Additionally, about 80% of the participants agreed that managing and controlling medication was better by using the electronic prescribing system. Furthermore, more than 60% of the participants believed that problems such as electricity and internet outages reduced their willingness to apply the electronic prescribing system. Overall, the results of the study indicated that the level of satisfaction with the electronic prescribing system was 2.87 out of 5 (2.87 ± 0.16 ; $\alpha=0.05$).

Discussion & Conclusion: This study highlights a notable lack of satisfaction among medical practitioners with regard to the electronic prescribing system, which can be attributed to inadequate implementation and infrastructure. The extant literature has unequivocally affirmed that a poorly designed electronic prescribing system is capable of having a deleterious impact on the quality of care, implementation, and user satisfaction. Conversely, a well-designed system is more likely to be successfully adopted (5-7). As such, it is imperative to prioritize the development and implementation of electronic prescribing systems in Iran, with a particular emphasis on ensuring their optimal design and implementation.

Keywords: electronic health record, electronic prescribing, physicians, physician engagement, medical order entry systems

REFERENCES

1. JOSENDAL AV, BERGMO TS. FROM PAPER TO E-PRESCRIBING OF MULTIDOSE DRUG DISPENSING: A QUALITATIVE STUDY OF WORKFLOW IN A COMMUNITY CARE SETTING. *PHARMACY (BASEL)*. 2021;9(1).
2. SIMEGN W, WELDEGERIMA B, SEID M, ZEWIDIE A, WONDIMSIGEGN D, ABYU C, ET AL. ASSESSMENT OF PRESCRIBING ERRORS REPORTED BY COMMUNITY PHARMACY PROFESSIONALS. *JOURNAL OF PHARMACEUTICAL POLICY AND PRACTICE*. 2022;15(1):62.
3. SATIR AN, PFIFFNER M, MEIER CR, CADUFF GOOD A. PRESCRIBING ERRORS IN CHILDREN: WHAT IS THE IMPACT OF A COMPUTERIZED PHYSICIAN ORDER ENTRY? *EUR J PEDIATR*. 2023;182(6):2567-75.
4. ALSHAHRANI F, MARRIOTT JF, COX AR. A QUALITATIVE STUDY OF PRESCRIBING ERRORS AMONG MULTI-PROFESSIONAL PRESCRIBERS WITHIN AN E-PRESCRIBING SYSTEM. *INT J CLIN PHARM*. 2021;43(4):884-92.
5. HAREEM A, LEE J, STUPANS I, PARK JS, WANG K. BENEFITS AND BARRIERS ASSOCIATED WITH E-PRESCRIBING IN COMMUNITY PHARMACY - A SYSTEMATIC REVIEW. *EXPLOR RES CLIN SOC PHARM*. 2023;12:100375.
6. AHMADI M, SAMADBEIK M, SADOUGHI F. MODELING OF OUTPATIENT PRESCRIBING PROCESS IN IRAN: A GATEWAY TOWARD ELECTRONIC PRESCRIBING SYSTEM. *IRAN J PHARM RES*. 2014;13(2):725-38.
7. SAMADBEIK M, AHMADI M, HOSSEINI ASANJAN SM. A THEORETICAL APPROACH TO ELECTRONIC PRESCRIPTION SYSTEM: LESSON LEARNED FROM LITERATURE REVIEW. *IRAN RED CRESCENT MED J*. 2013;15(10):E8436.