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Impact of electronic medical records on emergency department operations

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Abstract

The integration of electronic medical records (EMR) in emergency departments represents a major advancement in the digitization of healthcare. This study aims to assess its impact on organization, care coordination, and healthcare professionals' satisfaction. A qualitative and quantitative analysis conducted in the emergency department of the Military Instruction Hospital Mohamed V (HMIMV) in Rabat highlights the benefits of EMR while underscoring some challenges

Keywords: Electronic Medical Records (Emr); Emergency Services; Healthcare Digitization; Interoperability; Patient Data Security; Care Coordination

1. Introduction

Faced with increasing healthcare demands and the growing complexity of patient care, the digitization of healthcare services has become a necessity [1]. EMR centralizes and secures medical information, thereby improving coordination and facilitating emergency patient care [2]. However, its implementation poses challenges in terms of training, interoperability, and costs [3]. This study explores the impact of EMR on the operation of emergency department at HMIMV in Rabat.

2. Materials and Methods

The study was conducted in the emergency department of HMIMV, a reference center in emergency medicine. A mixed-method approach was adopted, combining qualitative analysis through structured questionnaires administered to healthcare professionals (doctors and nurses) and quantitative analysis via statistical processing using SPSS [4]. The objective was to assess the frequency of EMR use, its perception by caregivers, and its impact on care efficiency.

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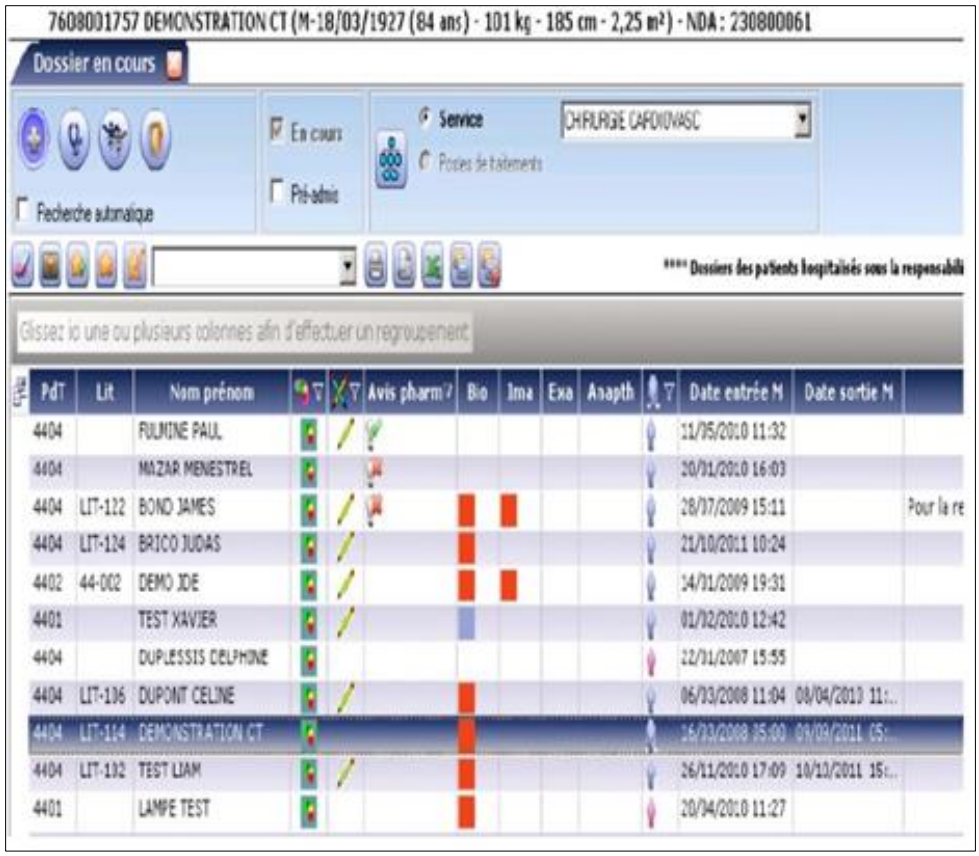

Figure 1 Dxcare platform interface

3. Results and Discussion

Analysis of responses revealed that 96% of participants reported being satisfied with the use of EMR, emphasizing its role in improving data access speed and interprofessional coordination [5].

EMR has significantly reduced the time required to retrieve patients' medical information, enabling faster and more effective clinical decision-making. Traceability and documentation of care have been enhanced, minimizing transcription errors and reinforcing patient safety [6].

Moreover, professionals reported that EMR facilitates collaboration among care teams, ensuring effective continuity of care even in cases of personnel changes. However, several obstacles remain, notably the lack of comprehensive training on optimal system use, which may slow its full adoption [7].

Interoperability with other hospital IT platforms is another identified challenge. Some caregivers expressed difficulties integrating data from EMR with other existing systems, thereby reducing the effectiveness of information sharing between different departments [8].

Additionally, patient data security remains a major concern. Although EMR offers advanced protection measures, some incidents related to unauthorized access and cybersecurity have been reported, highlighting the need to strengthen security protocols and data protection training [9].

Finally, one of the main issues raised concerns cognitive overload among caregivers due to the numerous notifications and automatic alerts from EMR. While these alerts are essential for flagging drug interactions or critical situations, an excess may lead to "alert fatigue," diminishing their impact and risking being ignored [10].

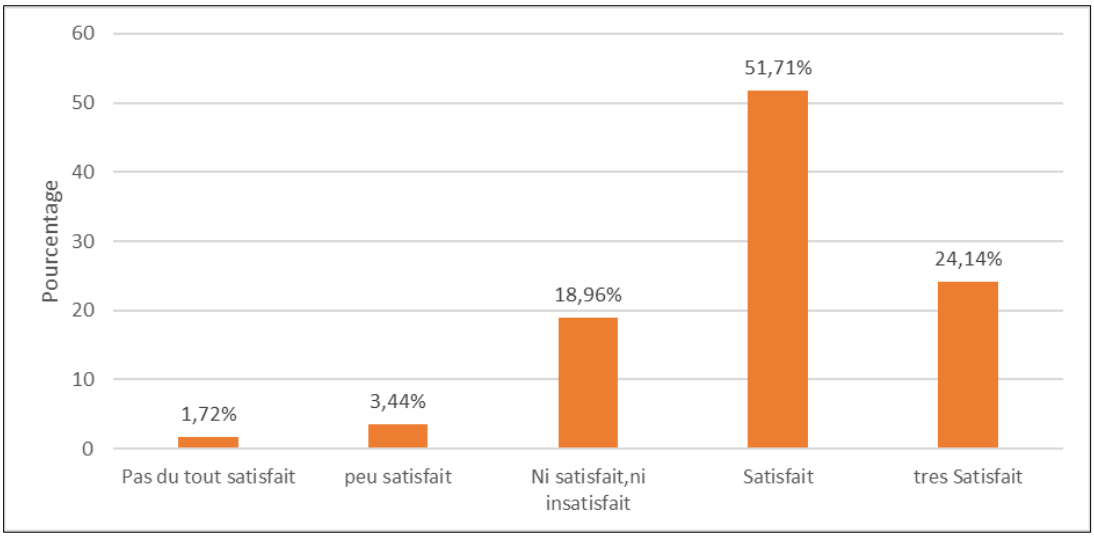

Figure 2 Overall satisfaction with the EMR

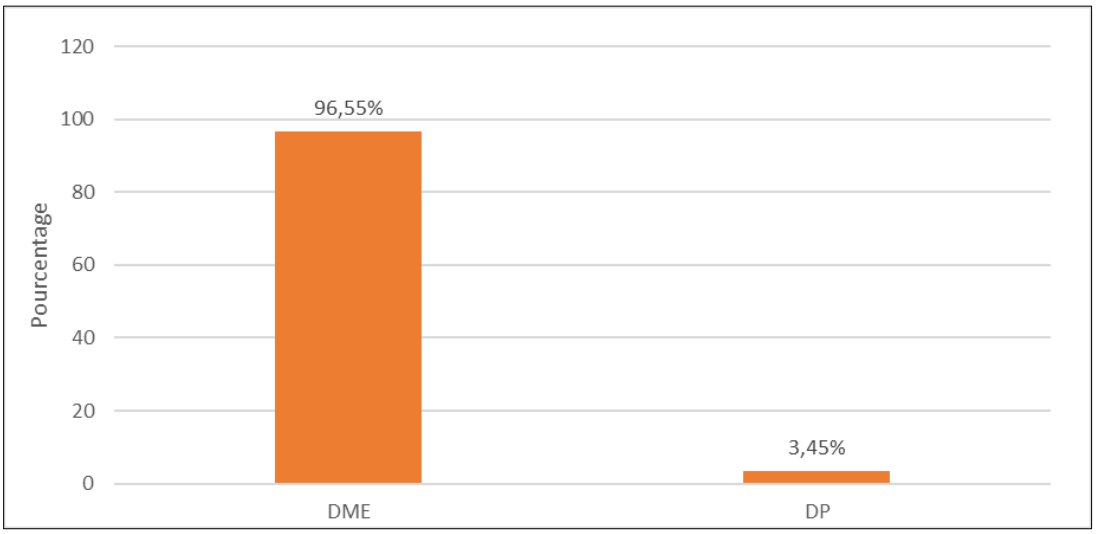

Figure 3 Staff choice between electronic medical records (DME) and paper medical records (DP)

4. Conclusion

EMR is a major advancement for optimizing emergency services. Its benefits in terms of quick information access and improved care coordination are undeniable. However, to maximize its efficiency, efforts must be made in professional training and IT system optimization. The progressive integration of artificial intelligence and mobile devices could be an avenue for improvement to explore [11].

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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