

ANALYSIS OF THE READINESS FOR THE IMPLEMENTATION OF ELECTRONIC MEDICAL RECORDS (EMR) AT RUMAH SAKIT UMUM AISYIYAH PADANG USING THE DOQ-IT METHOD IN 2024

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ABSTRACT

This research assesses the readiness for the implementation of Electronic Medical Records (EMR) at Rumah Sakit Umum Aisyiyah Padang using the Doctor's Office Quality-Information Technology (DOQ-IT) method. This quantitative study with a cross-sectional design involved 76 respondents, including doctors, nurses, medical record staff, and IT technicians. The study found that the hospital showed a high readiness for EMR implementation in the human resources (HR) aspect, with an average score of 4.03, and in IT infrastructure, with a score of 3.91. However, organizational work culture (3.76) and leadership governance (3.77) were areas that required improvement. The HR aspect showed a strong correlation with EMR implementation readiness ($r = 0.768$), indicating that well-trained and knowledgeable personnel are essential for the successful adoption of EMR. Furthermore, a positive organizational culture was crucial, as shown by the correlation between work culture and readiness ($r = 0.607$). This research emphasizes the need to enhance organizational culture and IT management support to ensure a successful transition to an EMR system at Rumah Sakit Umum Aisyiyah Padang..

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1. INTRODUCTION

In recent years, the healthcare sector in Indonesia has been transitioning towards the digitalization of patient records to improve efficiency, accuracy, and the overall quality of care. Among the most important technological advancements is the implementation of Electronic Medical Records (EMR). EMR systems enable healthcare professionals to store and access patient information more efficiently, thereby improving the quality of care, reducing medical errors, and enhancing decision-making. Despite these benefits, the widespread adoption of EMR across healthcare institutions in Indonesia is still limited. According to a survey conducted by the Ministry of Health, only 40% of hospitals have fully implemented integrated EMR systems as of 2021.

The implementation of EMR is crucial for improving healthcare management, but it requires a thorough assessment of an institution's readiness before full-scale deployment. The readiness assessment process ensures that various factors, such as human resources, infrastructure, organizational culture, and leadership, are

adequately prepared for the transition. Several studies have highlighted that hospitals lacking readiness in these areas face significant challenges during EMR implementation, which can delay or even hinder its success.

This research focuses on assessing the readiness of Rumah Sakit Umum Aisyiyah Padang in implementing EMR using the Doctor's Office Quality-Information Technology (DOQ-IT) method. This method evaluates key areas such as human resources, organizational culture, leadership, and technology infrastructure. By examining the current state of readiness, this study aims to provide valuable insights that will guide the hospital in successfully implementing EMR and improving its healthcare services. This research is particularly relevant in light of the Ministry of Health's regulation that mandates all healthcare facilities to implement EMR by December 2023. Furthermore, Rumah Sakit Umum Aisyiyah Padang, as a leading healthcare provider in the region, must ensure it meets the required standards to enhance service quality and improve patient safety Padang "

2. METHODS

This study employs a quantitative cross-sectional design to assess the readiness for the implementation of Electronic Medical Records (EMR) at Rumah Sakit Umum Aisyiyah Padang. The population consists of healthcare professionals, including doctors, nurses, medical record officers, and IT staff, totaling 400 individuals. A sample of 78 respondents was selected using Stratified Random Sampling based on their roles in the hospital. Data were collected through a structured questionnaire based on the Doctor's Office Quality-Information Technology (DOQ-IT) readiness assessment tool, focusing on four key areas: Human Resources (HR), Organizational Culture, Leadership and Governance, and Technology Infrastructure. Additionally, interviews with key informants provided qualitative insights into the hospital's readiness.

Descriptive statistics were used to calculate mean scores for each readiness dimension, and correlation analysis explored relationships between factors influencing EMR readiness. The results guided recommendations for improving readiness and overcoming challenges in EMR implementation.

3. RESULTS AND DISCUSSION

a. Readiness for the Implementation of Electronic Medical Records (EMR) at Rumah Sakit Umum Aisyiyah Padang

The readiness for implementing Electronic Medical Records (EMR) is a critical measure that needs to be evaluated before the system is optimally implemented. In this study, the Human Resources (HR) aspect was identified as the most prepared, with an average score of 4.03, indicating a strong foundation for the system's success. Following HR, the IT Infrastructure aspect scored 3.91, signaling that the hospital has developed the necessary technological framework to support the system. However, the Organizational Culture aspect scored the lowest, with an average score of 3.76, suggesting that more work is needed to prepare staff for cultural shifts and adjustments to new ways of working. This gap highlights the need to foster an environment that is receptive to technological change and adoption.

The results underscore the importance of assessing readiness across multiple dimensions before fully implementing EMR systems. A balanced readiness, covering HR, infrastructure, and culture, is essential for the successful adoption of new technologies in healthcare settings.

b. Human Resources (HR) Readiness

Human Resources are fundamental to the success of EMR implementation. Rumah Sakit Umum Aisyiyah Padang showed high readiness in this area, with an average score of 4.0, suggesting that the hospital staff is very prepared. This includes a significant proportion of staff with higher educational qualifications and relevant technical training, both of which are essential for operating EMR systems effectively. The study found that healthcare professionals with higher education levels and specialized training were more likely to efficiently use and understand the EMR system, a finding consistent with previous research that highlights the importance of ongoing training for staff (Sudirahayu & Harjoko, 2017).

In particular, the hospital's capacity for implementing EMR has been bolstered by targeted training programs aimed at enhancing the staff's technical competence. These programs have contributed significantly to building confidence in using digital health tools and reducing resistance to technological changes.

c. Organizational Culture Readiness

Organizational culture plays a pivotal role in the adoption of EMR systems. In Rumah Sakit Umum Aisyiyah Padang, the readiness of organizational culture was rated with an average score of 3.73,

which is indicative of moderate preparedness. This score reflects an organization that is relatively open to technological change but requires further development, particularly in fostering an environment that is fully supportive of digital health adoption.

The hospital has taken initial steps in establishing clear workflows and standard operating procedures (SOPs) for EMR implementation. However, there are potential challenges in addressing diverse opinions and concerns regarding changes in the organizational culture, which may slow down the transition. In particular, there is a need for more extensive dialogue and engagement with staff at all levels to ensure alignment in attitudes toward the change. Research supports that employee involvement in the planning and implementation stages is crucial for smoother transitions (Faida & Ali, 2021). The hospital's leadership should prioritize building a culture that embraces change, communication, and collaboration.

d. Leadership and Governance Readiness

Leadership is a crucial factor in determining the success of EMR implementation. Rumah Sakit Umum Aisyiyah Padang received a leadership readiness score of 3.77, indicating that while the leadership understands the importance of EMR, there are areas for improvement, particularly in the management of IT systems. The hospital has demonstrated some readiness in terms of leadership, but additional resources are needed for proper IT management and a more detailed planning timeline for system design and rollout.

This score suggests that there are still challenges to overcome in terms of ensuring adequate managerial support for the implementation process. Leaders need to be equipped with the necessary skills and resources to manage both the technical and human aspects of the transition effectively. Therefore, it is essential for leadership to align their vision with the broader hospital goals of improved patient care through the use of EMR.

e. IT Infrastructure Readiness

The hospital's IT infrastructure received a score of 3.9, reflecting a strong preparedness for the EMR system's implementation. The IT infrastructure is largely in place, with sufficient technological resources to support the initial phases of implementation. However, the ongoing development of software applications and the need for continuous upgrades mean that the hospital must stay proactive in addressing technological gaps and ensuring that the infrastructure can support long-term system sustainability.

The hospital's IT budget allocation and the management of IT resources will play a key role in sustaining EMR implementation. It is critical to ensure that there are enough investments in IT support, hardware upgrades, and software management to meet the evolving demands of the system.

f. Relationship between Human Resources and EMR Readiness

Statistical analysis revealed a strong correlation ($r = 0.768$) between HR readiness and overall EMR implementation readiness. This indicates that healthcare professionals who possess the necessary skills and knowledge in computer operations are more likely to contribute to the success of the EMR system. Furthermore, ongoing training programs significantly improve the readiness of staff, making them more adept at operating digital systems and less resistant to the change.

This finding emphasizes the need for continuous professional development and training as a foundation for successful EMR integration. Investments in HR capacity-building are essential for sustaining long-term adoption and overcoming barriers to digital health technology.

g. Relationship between Organizational Culture and EMR Readiness

The bivariate correlation analysis between organizational culture and EMR readiness yielded a correlation coefficient of $r = 0.607$, indicating a moderate to strong relationship. This suggests that a supportive organizational culture, one that is adaptable to change and technology adoption, is essential for the smooth implementation of EMR systems.

In a hospital setting, fostering a culture that encourages collaboration, openness to technological change, and collective problem-solving is vital for overcoming resistance and ensuring staff buy-in. Hospitals should focus on creating an environment where all stakeholders—especially the staff who will directly interact with the system—are actively engaged and confident in the new system's benefits.

4. CONCLUSIONS

This study evaluates the readiness of Rumah Sakit Umum Aisyiyah Padang for the implementation of Electronic Medical Records (EMR), highlighting strengths in Human Resources and IT Infrastructure. HR readiness is strong due to staff education and training, ensuring effective use of EMR. IT infrastructure is largely capable, though ongoing software updates are necessary. However, Organizational Culture and Leadership show areas needing improvement. While leadership understands the importance of EMR, more

involvement and clearer planning are required to ensure smooth implementation. Organizational culture also needs to adapt to support technological change and improve staff engagement. The study shows that successful EMR adoption relies on a combination of skilled staff, supportive culture, and strong leadership. To ensure a successful transition, the hospital must focus on enhancing leadership involvement, fostering a culture of innovation, and providing continuous training. These efforts will help align all aspects of the hospital for successful EMR implementation, ultimately improving healthcare services and operational efficiency

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