



Emergency Installation Staff Satisfaction with the Use of Electronic Medical Records

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ABSTRACT

Proper implementation of electronic medical records (EMRs) is essential to increase health worker satisfaction, which in turn improves the quality of health services. However, the use of EMR can also cause dissatisfaction, in part due to limitations in sentence format when completing medical assessments in the EMR system. This study aims to explore the relationship between the use of EMR and the satisfaction of health workers in the emergency room of RSMM (Rumah Sakit Mata Masyarakat), East Java. With a quantitative analysis approach, this research used a cross-sectional design with 19 participants selected through a total sampling method. This research focuses on two main variables: officer satisfaction (free) and EMR use (bound). Data was collected through interviews and questionnaires, and statistical analysis was carried out using the Spearman test. Findings showed that 63.2% of respondents were satisfied, with 78.9% expressing confidence in the quality of EMR use. The Spearman test produced a significant p-value of 0.006 ($p < 0.05$), indicating a significant relationship between the use of RME at RSMM East Java. RSMM East Java is committed to continuing to increase personnel satisfaction by continuously improving the EMR system based on feedback.

INTRODUCTION

One of the innovative advances in the health sector, driven by advances in information technology, is the transition from paper-based recording and reporting methods to hospital management information systems (Andini et al., 2022). Currently, health service institutions in Indonesia are required to implement RME in accordance with Minister of Health Regulation No. 24 of 2022 concerning medical records (Prasetyo, 2023). Based on the Regulation of the Minister of Health No. 24 of 2022, Electronic Medical Records (EMR) are medical records compiled using an electronic system for the purpose of managing medical records (Permenkes RI, 2022). The use of EMR provides the advantage of faster access to results or updates from other healthcare providers. In addition, EMR provides long-term benefits such as better patient monitoring and safety and improved coordination of patient care (Chang and Gupta, 2015). The implementation of EMR involves the use of information technology to collect, store, manage, and access patient medical data. In more sophisticated environments, some hospitals have combined EMR with Hospital Management Information System applications (Handiwidjojo, 2015).

EMR at Mata Masyarakat Hospital, East Java, uses Medify, which has been integrated with Hospital Management Information System applications. RSMM East Java began implementing EMR in the emergency installation in August 2023. Meanwhile, outpatient installations, inpatient installations, and central surgical installations are still in the trial and improvement stage. The use of EMR involves officers

who actively operate the system. When officers use EMR, this increases officer job satisfaction. When officers are satisfied with their work, they show positive behaviour in carrying out their responsibilities (Rachmawati et al., 2021).

Officer satisfaction can be evaluated using one of the methods, namely End User Computing Satisfaction (EUCS), which has been developed by Doll & Torkzadeh. This method is widely used because it has strong validity and uses reliable instruments derived from previous research developments (Febrianti et al., 2023). The EUCS approach evaluates user satisfaction with an application by comparing their expectations with their experience in using the information system (Damayanti, Mursityo, and Herlambang, 2018). When using RME, various variables are used to evaluate its use. These variables include two leading indicators: frequency of use and duration of daily use (Rahmatulloh, 2017).

In Pardede's 2023 study at Santa Elisabeth Hospital Medan, it was observed that 29 individuals (72.5%) predominantly used EMR. The survey showed that 26 respondents, or 65.0%, stated that they were satisfied with the use of EMR by most health professionals. Statistical analysis with a p-value of 0.029 indicated a correlation between the use of EMR and the satisfaction of health workers in the hospital's inpatient ward in 2023 (Pardede, 2023).

This study differs from previous studies in several ways. The differences include a special focus on the emergency room officers of Mata Masyarakat Hospital East Java as the population and sample studied. The sampling approach used was total sampling, and the Spearman test was used as a statistical method to evaluate the relationship. Based on the results of an initial survey with officers at the Emergency Room of RSMM East Java, the use of EMR is very helpful and speeds up the work of officers. The use of EMR can also cause officer dissatisfaction; one of which is in terms of appearance (format), there are limitations in sentences when filling out medical assessments in EMR. This study is very important to improve the effectiveness and quality of service. Based on the results of an initial survey with officers at the Emergency Room of Mata Masyarakat East Java, the use of EMR is very helpful and speeds up the work of officers. The use of RME can also cause officer dissatisfaction, one of which is in terms of appearance (format); there are limitations in sentences when filling out medical assessments in EMR. This study is very important to improve the effectiveness and quality of service.

METHOD

This study uses quantitative analytical research by analysing the relationship between satisfaction with and the use of EMR at Mata Masyarakat East Java. Analytical research design involves the use of statistical analysis to investigate the correlation between cause and effect or risk factors and their impacts, with the aim of understanding the mechanisms and reasons behind a phenomenon (Syapitri, Amila, and Aritonang, 2021). Using research instruments for data collection and quantitative or statistical analysis,

this approach examines a specific population or sample to evaluate previously formulated hypotheses (Sugiyono, 2019).

The design in this study used a cross-sectional approach. Cross-sectional research investigates the correlation between exposure or risk factors (dependent variables) and outcomes or effects (independent variables). With the point-in-time approach, data collection is carried out simultaneously between risk factors and outcomes, meaning that all variables are observed (Syapitri, Amila, and Aritonang, 2021).

In this study, validity and reliability tests were not conducted because the questionnaire was adopted from previous studies. This study uses non-parametric analysis techniques with a Spearman correlation test. Correlation analysis is used to determine the relationship between two or more variables. Determining whether the relationship exists depends on the level of significance: if > 0.05 , H_0 (null hypothesis) is accepted, and H_a (alternative hypothesis) is rejected. Conversely, if the level of significance is < 0.05 , H_0 is rejected and H_a is accepted (Sutha, 2019).

RESULT

The satisfaction criteria for respondent characteristics consist of four indicators, namely gender, type of work, age, and length of service of the respondent.

Table 1. Satisfaction Criteria for Respondent Characteristics

No	Respondent Characteristics	Satisfied (f)	Not Satisfied (f)	Total (f)
1.	Gender			
	Male	5	1	6
	Female	7	6	13
2.	type of work			
	Doctor	3	3	6
	Nurse	2	3	5
	counter attendant	7	1	8
3.	age			
	17-25 yo	1	1	2
	26-35 yo	8	4	12
	36-45 yo	3	2	5
	46-55 yo	0	1	1
4.	years of service			
	1-5 year	10	3	13
	6-10 year	2	3	5
	>10 year	0	1	1

Based on table 1, the satisfaction criteria based on gender characteristics, the majority of respondents are dissatisfied with female gender, age characteristics in the age range of 26-35, respondents who are dissatisfied, the type of work of doctors and nurses that dominate dissatisfaction with the use of RME, and the characteristics of work period in the work period of 1-5 years and 6-10 years who feel dissatisfied.

Table 2. Criteria for Satisfaction of Emergency Room Officers at Mata Masyarakat Hospital East Java

Officer Satisfaction	Frequency (f)	Percentage (%)
Satisfaction	12	63,2
Non satisfaction	7	36,8
Total	19	100

Based on table 2, the results of the study show that the satisfaction of the IGD officers who were respondents, as many as 63.2% felt satisfied, while 36.8% felt dissatisfied. Respondents who felt dissatisfied were mostly on the appearance aspect in the RME.

Based on the results of the questionnaire and interviews with emergency room officers, they were satisfied with the use of EMR. In the emergency room of Mata Masyarakat Hospital East Java, there was a down system, but the information technology team at Mata Masyarakat Hospital East Java quickly responded to it.

Table 3. Criteria for the Use of RME in the Emergency Room of RSMM East Java

EMR Usage	Frequency (f)	Percentage (%)
Good	15	78,9
Less	4	21,1
Total	19	100

Based on table 3, the results of this study indicate that the use of RME in the Emergency Room of Mata Masyarakat Hospital East Java, as many as 78.9% feel good, while 21.1% feel less. The use of EMR in the Emergency Room of Mata Masyarakat Hospital East Java is very good because it has been used in all activities in the Emergency Room of Mata Masyarakat Hospital East Java.

Table 4. Results of the Test of the Relationship between IGD Officer Satisfaction and the Use of EMR

	Officer Satisfaction	EMR Usage
Correlation coefficient	0,604**	0,604**
<i>p-value</i>	0,006	0,006

Based on table 4, hypothesis testing in this study uses the Spearman correlation test technique, using IBM SPSS software version 25 for analysis. The results of Table 4 show a significant correlation between satisfaction with the use of EMR, with a significance value (2-tailed) of 0.006, indicating acceptance when sig <0.05. The SPSS output produces a correlation coefficient of 0.604, indicating a strong correlation between the satisfaction of health workers in the emergency department and the use of EMR. A positive correlation coefficient indicates that high satisfaction among health workers at Mata Masyarakat Hospital East Java is related to better use of EMR

DISCUSSION

Satisfaction is an emotional response of joy or disappointment that arises after comparing anticipated results or performance. When performance falls short of expectations, individuals feel dissatisfied, while

exceeding expectations results in a high level of satisfaction or happiness (Putri, 2020). In this study, five aspects indicate the satisfaction of the Masyarakat Hospital East Java Emergency Room officers, namely:

1. Content

The content aspect in this study aims to evaluate user satisfaction by assessing the relevance of the system content. It also evaluates how well the system produces information that meets the needs of users smoothly during their work (Siregar, 2020). Based on the results of the questionnaire that was given to the emergency room officers of Masyarakat Hospital East Java regarding the use of EMR, it was found that the content aspect of EMR was already satisfied. However, in this aspect, there is one piece of information that is not seen, namely the patient visit data.

2. Accuracy

The purpose of this study is to assess the accuracy of user satisfaction with the hospital management information system installation. There must be no duplication or error in the process of inputting or outputting data from the EMR system. The accuracy component will measure the level of accuracy and verify whether the input and output are in accordance with EMR standards (Siregar, 2020). Based on the results of the questionnaire and interviews with the emergency room officers of Mata Masyarakat Hospital, East Java, the officers were satisfied with the accuracy of the use of EMR. In the use of EMR when processing input from users, there were no errors or mistakes in the data processing process. However, there is still duplication of patient medical record numbers, which should not happen.

3. Format

In this study, the display aspect (format) is used to assess EMR user satisfaction with its system interface. The evaluation focuses on EMR user interaction with the interface, including the EMR application display. The clarity and lack of ambiguity in the EMR application interface, supported by the right choice of colours, ensure that the interface does not cause eye strain and allows users to work more effectively (Siregar, 2020).

Based on the results of the questionnaire and interviews with the Mata Masyarakat Hospital East Java Emergency Room officers, some officers felt dissatisfied with the appearance of several displays because there were changes in the display from when EMR was first implemented. There were several columns where the number of words used was limited, and a template should have been provided to make it easier and faster to fill in the form.

4. Ease of Use

In this study, to assess user satisfaction with the EMR system in terms of ease of use using the ease-of-use aspect. EMR is intentionally designed to be easy to use, allowing users to easily navigate and use the tools available when operating the information system. The ease-of-use aspect evaluates how effectively users can use the EMR provided (Siregar, 2020). Based on the results of the questionnaire and interviews

with the Mata Masyarakat Hospital East Java Emergency Room officers regarding the use of EMR, the officers did not feel they had any difficulty inputting data into EMR, and the officers felt helped by the existence of EMR.

5. Timeliness

In this study, to measure user satisfaction with EMR based on how quickly the system responds using timeliness. Timeliness here reflects the system's ability to quickly deliver the latest data and information. This aspect also includes the system's ability to provide information quickly without causing delays for EMR users (Siregar, 2020).

In this study, two indicators were used to measure the use of EMR at Mata Masyarakat Hospital, East Java, namely frequency of use and daily time usage. In this study, the frequency of use of EMR was very high, which was caused by the consistent use of EMR in every stage, from registration to patient entry into the emergency room. Respondents also stated the importance of the availability of EMR that is ready to be used at any time when needed. In addition, respondents emphasised that EMR is used and utilised in every daily activity. Utilisation of EMR relates to how often EMR is used during tasks and management of processes involving electronic records containing health information. Given that EMR implementation has begun in various health services, its use in these facilities must be carried out efficiently (Rahmatulloh, 2017).

Based on the results of the questionnaire and interviews with the emergency room officers of Mata Masyarakat Hospital East Java, the use of EMR is always for more than 4 hours in 1 day. However, at certain times, sometimes EMR experiences a system down which causes EMR to not be able to be used at that time, usually at night, so that officers cannot operate it.

The results of this study are supported by Rahmatulloh's (2017) research on the use of EMR. Of the 81 respondents surveyed, Rahmatulloh found a positive assessment of the use of EHR. Specifically, 53 respondents (65%) believed that EMR should always be accessible and reported using EMR for more than 6 hours each day (Rahmatulloh, 2017).

In this study, it was observed that most of the satisfied officers showed effective use of EMR, while those who were less satisfied tended to show inadequate use of EMR. The results of this study indicate that satisfaction of health workers significantly influences the use of EMR. The findings of this study are in line with the results of Sapriadi and Lase's study in 2022. According to their findings, out of a total of 82 respondents, most officers, namely 44 people (53.7%), considered the use of EMR to be good, and 41 people (50.0%) stated that they were satisfied with its use. The results of the chi-square test revealed a significant relationship between the use of electronic medical records and user satisfaction in the outpatient department of RSU Mitra Medika Amplas in 2022. The p-value of 0.018 indicates statistical significance at the $\alpha = 0.05$ level (Sapriadi and Lase, 2022).

CONCLUSION

Satisfaction of the emergency room officers of Mata Masyarakat Hospital East Java: as many as 63.2% felt satisfied, while 36.8% felt dissatisfied. The use of EMR in the emergency room of Mata Masyarakat Hospital, East Java: as many as 78.9% felt good, while 21.1% felt lacking. Satisfaction criteria based on gender characteristics, the majority of whom were female who were dissatisfied; on age characteristics in the age range of 26-35, respondents who were dissatisfied; on the type of work of doctors and nurses who dominated dissatisfaction with the use of EMR; and on the characteristics of the length of service at the work period of 1-5 years and 6-10 years, who were dissatisfied. There is a relationship between the satisfaction of emergency room officers and the use of EMR at Mata Masyarakat Hospital, East Java.

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