

THE RELATIONSHIP BETWEEN THE IMPLEMENTATION OF ELECTRONIC MEDICAL RECORDS AND THE ADMINISTRATIVE EFFICIENCY OF SARKIES 'AISYIYAH KUDUS HOSPITAL

Ria Febrianti¹, Muhammad Purnomo², Fitriana Kartikasari³, Zunia Khairunnisa⁴

Program Studi S1 Administrasi Rumah Sakit Fakultas Kesehatan Universitas Muhammadiyah Kudus

E-mail : 32022160014@std.umku.ac.id, muh.purnomo@umkudus.ac.id, fitrianakartikasari@umkudus.ac.id,
zuniakhairunnisa@umkudus.ac.id

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Abstract

The digital transformation of healthcare services has encouraged hospitals to implement Electronic Medical Records (EMR) as an effort to improve administrative efficiency and service quality. This study aims to analyze the relationship between the implementation of Electronic Medical Records (EMR) and administrative efficiency at Sarkies 'Aisyiyah Hospital in Kudus. The study used a quantitative method with a correlational analytical design and a cross-sectional approach. The study population consisted of 155 administrative staff and medical record officers, all of whom were sampled using a total sampling technique. Data were collected using a Likert scale questionnaire that has been declared valid and reliable, then analyzed using univariate analysis and the Spearman Rank correlation test with the help of SPSS. The results showed that the implementation of Electronic Medical Records was in the high category (89.7%) and administrative efficiency was in the efficient category (98.1%). Bivariate analysis showed a significant relationship between the implementation of Electronic Medical Records and hospital administrative efficiency ($p < 0.001$; $r = 0.514$). This study concluded that increasing the implementation of Electronic Medical Records is associated with increased hospital administrative efficiency. Optimizing system integration, strengthening technological infrastructure, and improving human resource competencies are needed to support the success of the digital transformation of healthcare services.

Keywords: Administrative Efficiency, Electronic Medical Records, Health Information Systems, Hospital Administration, Hospital Management

INTRODUCTION

The rapid advancement of information technology has accelerated the digital transformation of healthcare services worldwide. Electronic Medical Records (EMR) have become one of the most important innovations in modern healthcare because they improve service quality, patient safety, and hospital operational efficiency. Hospitals that successfully implement EMR systems have reported improvements in operational efficiency and reductions in administrative errors (Lee et al., 2023). In Indonesia, digital transformation has been reinforced through the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 concerning Medical Records, which requires healthcare facilities to implement electronic medical records as part of an integrated national health information system (Ministry of Health of the Republic of Indonesia, 2022).

Compared with conventional paper-based records, EMR facilitates faster access to patient information, improves documentation accuracy, reduces administrative errors, and supports coordination among healthcare professionals. EMR implementation also contributes to administrative efficiency by simplifying registration, documentation, reporting, and information management processes while reducing operational costs associated with paper-based records (Darmiani et al., 2024). Previous studies have also demonstrated that EMR implementation can reduce patient waiting time, accelerate access to patient information, and improve hospital service efficiency (Alfitasari et al., 2025; Francis & Kassiuw, 2024).

Furthermore, the transition to electronic documentation reduces paper consumption and supports long-term operational efficiency (Septiana et al., 2023).

Despite these advantages, successful EMR implementation remains challenging. Many hospitals continue to experience inadequate technological infrastructure, incomplete system integration, organizational resistance, and limited digital readiness. Consequently, many healthcare facilities continue to operate hybrid documentation systems that combine electronic and paper-based medical records. Although hybrid systems facilitate the transition toward digital healthcare, they may also increase duplicate documentation, administrative workload, and operational inefficiency if system integration is not optimal (Surahman & Setiatin, 2023). In addition, hospitals that fail to optimize digital transformation may experience difficulties in improving service quality and organizational competitiveness (Hanifa & Wicaksono, 2025).

Previous studies have mainly discussed EMR implementation in terms of technology adoption, service quality, user acceptance, or patient safety. However, studies specifically examining the relationship between EMR implementation and administrative efficiency in hospitals operating under hybrid documentation systems remain limited, particularly in Indonesian private hospitals. Therefore, further empirical evidence is required to explain how EMR implementation contributes to administrative efficiency under these conditions.

Sarkies 'Aisyiyah Kudus Hospital has implemented EMR since the beginning of its operation as part of its digital transformation strategy. However, several administrative processes still require physical document verification because the hospital continues to implement a hybrid documentation system. This condition has the potential to create duplicate administrative activities, increase staff workload, and reduce coordination efficiency among hospital units. Evaluating the relationship between EMR implementation and administrative efficiency is therefore important to determine the effectiveness of EMR implementation in supporting hospital administrative performance.

Therefore, this study aimed to analyze the relationship between Electronic Medical Record implementation and administrative efficiency at Sarkies 'Aisyiyah Kudus Hospital. The novelty of this study lies in its focus on evaluating the relationship between EMR implementation and administrative efficiency in a private hospital that continues to operate under a hybrid documentation system. The findings are expected to provide empirical evidence for hospital management in optimizing EMR implementation and may serve as a reference for other healthcare institutions undergoing digital transformation.

RESEARCH METHODS

This study uses a quantitative method with a correlational analytical design that aims to analyze the relationship between the implementation of Electronic Medical Records (EMR) and administrative efficiency at Sarkies 'Aisyiyah Hospital in Kudus. The research approach used is cross-sectional, namely data collection is carried out at a certain time so that the measurement of independent variables and dependent variables is carried out simultaneously without further observation at different periods. This approach is chosen because it is in accordance with the research objective to determine the relationship between the level of implementation of Electronic Medical Records and the level of hospital administrative efficiency based on the conditions that occurred when the study was conducted.

Data collection was conducted using a closed-ended questionnaire with a five-level Likert scale, namely Strongly Disagree, Disagree, Undecided, Agree, and Strongly Agree. The research instrument consisted of two variables, namely the implementation of Electronic Medical Records as the independent variable and the efficiency of hospital administration as the dependent variable, each of which was measured using 10 statement items according to the research indicators. Before being used in the study, the instrument had undergone a validity test using Pearson Product Moment correlation on 20 respondents. The test results showed that all items had a corrected item total correlation value greater than the r table value of 0.444 so that all statement items were declared valid (Notoatmodjo, 2018). Furthermore, a reliability test was conducted using the Cronbach's Alpha method with a result of 0.943, which indicates

that the instrument has a very high level of internal consistency and is suitable for use in the data collection process.

The data obtained then went through editing, coding, and tabulation stages before being analyzed using the Statistical Package for the Social Sciences (SPSS). Univariate analysis was conducted to describe the frequency distribution, percentage, mean value, and standard deviation for each research variable. Next, bivariate analysis was conducted using the Spearman Rank correlation test to determine the relationship between the implementation of Electronic Medical Records and hospital administrative efficiency. The test was conducted at a significance level of $\alpha = 0.05$, so that a p value <0.05 indicates a significant relationship between the two research variables, while the correlation coefficient value is used to describe the direction and strength of the relationship formed.

The population is all individuals who have characteristics in accordance with the research objectives and are the target of generalization of research results (Notoatmodjo, 2018). The population in this study was all administrative staff and medical record officers who use Electronic Medical Records in the service administration process at Sarkies 'Aisyiyah Hospital, Kudus, totaling 155 people. The sampling technique used total sampling, that is, all members of the population were made respondents of the study, so the number of samples used was also 155 respondents. The use of this technique was chosen because the entire population could be reached by the researcher and was expected to provide a more comprehensive picture of the implementation of Electronic Medical Records and its relationship to hospital administrative efficiency, while minimizing the potential for bias due to the selection of some members of the population (Marlina et al., 2025). The research respondents were administrative staff or medical record officers who use Electronic Medical Records in their daily work, were willing to participate in the study through informed consent, and were able to understand the contents of the questionnaire. Respondents who were on leave or inactive during data collection or who did not complete the questionnaire completely were excluded from the study.

The research was conducted systematically through several stages. The initial stage began with a preliminary study through literature searches and initial observations to identify research problems, then continued with processing research permits from the Muhammadiyah University of Kudus to Sarkies 'Aisyiyah Hospital Kudus. After obtaining permits, the researcher developed research instruments based on indicators for each variable, then conducted validity and reliability tests before being used in data collection. Next, respondents were identified according to inclusion and exclusion criteria using a total sampling technique. Then, the researcher provided an explanation of the objectives, benefits, and procedures of the study, and requested respondents' approval through informed consent. Data collection was carried out using primary data obtained through distributing questionnaires to all respondents and secondary data derived from supporting hospital documents related to the implementation of Electronic Medical Records.

This research was conducted with due regard to research ethics principles, including respect for respondents' rights, confidentiality of identity, data anonymity, voluntary participation, and use of data for academic purposes only. All collected data were then checked for completeness, edited, coded, and tabulated before being analyzed using SPSS. The results of the analysis were then interpreted according to the research objectives and compiled into a research report on the relationship between the implementation of Electronic Medical Records and administrative efficiency at Sarkies 'Aisyiyah Hospital, Kudus.

RESULTS AND DISCUSSION

Respondent Characteristics

Table 1. Respondent Characteristics

Variables	Category	n	%	Mean $\pm$ SD	Min–Max
Age	-	155	-	34 $\pm$ 7	23–46
Gender	Man	34	21,9	-	-
	Woman	121	78,1	-	-

Professions	Nurse	105	67,7	-	-
	Midwife	20	12,9	-	-
	Medical Records	6	3,9	-	-
	Pharmacist	5	3,2	-	-
	ATLM	3	1,9	-	-
	Radiographers	3	1,9	-	-
	Others	13	8,5	-	-
Work Unit	Inpatient Ward	63	40,6	-	-
	Emergency Department	18	11,6	-	-
	Maternity Unit & Perinatology	11	7,1	-	-
	Intensive Care Unit	10	6,5	-	-
	Laboratory Setup	11	7,1	-	-
	Radiology Department	7	4,5	-	-
	Outpatient Facility	8	5,2	-	-
	Others	27	17,4	-	-
Length of Service -		155	-	2,5±0,7	1-3

Based on Table 1, it is known that the number of respondents in this study was 155 people. The average age of respondents was 34 years with a standard deviation of 7, where the youngest was 23 years old and the oldest was 46 years old. This indicates that most respondents were in the productive age range. Meanwhile, the average length of work of respondents was 2.5 years with a standard deviation of 0.7, with the shortest length of work being 1 year and the longest being 3 years, which indicates that the majority of respondents had relatively sufficient work experience. Based on gender, the majority of respondents were female, namely 121 people (78.1%), while 34 people were male (21.9%). This indicates that the health workers in this study were dominated by women. Based on profession, the majority of respondents worked as nurses, namely 105 people (67.7%), followed by midwives as many as 20 people (12.9%). Other professions such as medical records (3.9%), pharmacists (3.2%), ATLM (1.9%), radiographers (1.9%), and other professions (8.5%) have a smaller proportion. This indicates that nurses are the most dominant profession in this study. Based on the work unit, the majority of respondents work in the Inpatient Installation, namely 63 people (40.6%). This is followed by the Emergency Installation with 18 people (11.6%), the Maternity and Perinatology Unit and the Laboratory Installation each with 11 people (7.1%), the Intensive Care Installation with 10 people (6.5%), the Outpatient Installation with 8 people (5.2%), and the Radiology Installation with 7 people (4.5%). Meanwhile, other work units have a proportion of 17.4%. This shows that the distribution of respondents is quite diverse, but is dominated by health workers in the Inpatient Installation.

Univariate Analysis

1. Distribution of Electronic Medical Record Implementation

Table 2. Distribution of Electronic Medical Record Implementation

Category	Frequency	Percentage
Tall	139	89.7%
Low	16	10.3%
Total	155	100%

Based on Table 2, it is known that the majority of respondents, 139 respondents (89.7%), were in the high category, while 16 respondents (10.3%) were in the low category. These results indicate that the majority of healthcare workers have utilized the electronic medical records system effectively to support the healthcare process in hospitals.

The high level of implementation of electronic medical records can be attributed to several factors,

including the ease of use of the system, the availability of facilities and infrastructure such as computers and adequate internet connections, and the training provided to healthcare workers. Furthermore, the ability to adapt to information technology also plays a role in increasing the use of electronic medical records systems. With good implementation, the process of recording patient data becomes faster, more accurate, and easier to access when needed, thus supporting the smooth running of healthcare services. Distribution of Respondents Based on Length of Service.

2. Distribution of Hospital Administration Efficiency

Table 3. Distribution of Hospital Administration Efficiency

Category	Frequency (n)	Percentage %
Efficient	152	98.1%
Not efficient	3	1.9%
Total	155	100%

Table 3 shows that the majority of respondents (152 respondents (98.1%) were in the high category, while only 3 respondents (1.9%) were in the low category. This indicates that, in general, administrative efficiency at the hospital has been running very well.

This high administrative efficiency reflects healthcare workers' ability to complete administrative tasks quickly, accurately, and with minimal errors. This efficiency is largely due to the support of an electronic medical records system, which accelerates data processing, reduces paper use (paperless), and minimizes data duplication. Furthermore, the integrated system facilitates coordination between service units, resulting in a more effective and efficient workflow.

Bivariate Analysis

Bivariate analysis was conducted to test the relationship between the RME Implementation variables (X) and Administrative Efficiency (Y).

1. Normality Test

Table 4. Normality Test

Variables	Test Statistics	Asymp. Sig. (2-tailed)	Information
Total X (Record Implementation Electronic)	Medical 0.121	0,000	Abnormal
Total Y (Administrative Efficiency)	0.121	0,000	Abnormal

Based on the results of the normality test using the Kolmogorov-Smirnov test, the significance value for all variables was 0.000 (<0.05), thus concluding that the research data was not normally distributed. Because the data was not normally distributed, the non-parametric Spearman Rank correlation test was used.

2. Spearman Rank Correlation Test (Analysis Per Indicator)

Table 5. Spearman Correlation Test

Variable Relationship	n	Correlation Coefficient (r)	p-value
RME Implementation (x) -> Administrative Efficiency (Y)	155	0.514	<0.001

Based on Table 5, the results of the Spearman correlation test on 155 respondents, a correlation coefficient (r) of 0.514 was obtained with a p-value of <0.001 ($p < 0.05$). This indicates a significant relationship between the implementation of electronic medical records and administrative efficiency in hospitals. The correlation coefficient value of 0.514 indicates that the strength of the relationship is in the

moderate to strong category with a positive relationship. This means that the higher the level of implementation of electronic medical records, the higher the resulting administrative efficiency. This positive relationship indicates that the implementation of an electronic medical record system plays a significant role in improving administrative performance, particularly in terms of service speed, data recording accuracy, and ease of access to information. With an integrated system, administrative processes become more structured and efficient, thereby supporting improvements in the overall quality of health services.

Respondent Characteristics

Based on the research results in Table 4.1, it is known that the average age of respondents was 34 ± 7 years, with an age range of 23–46 years. This indicates that the majority of respondents were of productive age. This productive age group is the age group with better adaptability to technological developments, including the use of Electronic Medical Records (EMR). Individuals at this age tend to be more receptive to digital innovation and have optimal cognitive abilities in using health information systems. This is in line with research stating that acceptance of health technology is influenced by individual readiness and productive age factors (Belrado et al., 2024).

Based on gender, the majority of respondents were female (78.1%), while 21.9% were male. This reflects the female-dominated healthcare workforce in Indonesia, particularly in the nursing and midwifery professions. However, gender did not significantly influence technology acceptance, as perceived ease of use and system benefits were the dominant factors. This aligns with research showing that RME implementation is more influenced by system and organizational factors than demographic characteristics (Cahyani et al., 2024).

Based on profession, the majority of respondents were nurses (67.7%), followed by midwives (12.9%) and other professions. This indicates that nurses are the primary users of the Electronic Medical Record system in daily healthcare services. Nurses play a crucial role in recording patient data, documenting services, and coordinating between units. Therefore, the success of EMR implementation is strongly influenced by the involvement of nursing staff. This aligns with research indicating that healthcare workers are a key factor in the successful implementation of EMR systems in hospitals (YW Putri et al., 2024). Based on work units, the majority of respondents came from inpatient units (40.6%), indicating that EMR use is more dominant in units with high service intensity. Inpatient units have complex and ongoing documentation needs, making a digital system essential to improve administrative efficiency and reduce recording errors.

Research shows that EMR implementation plays a role in improving service effectiveness, especially in units with high workloads (Rusdi et al., 2024). Based on length of service, the average respondent had 2.5 ± 0.7 years of work experience, with a range of 1–3 years. This indicates that most respondents were relatively new workers. Workers with shorter tenure tend to be more adaptable to technological change and innovation compared to older workers accustomed to manual systems. This is in line with research stating that human resource readiness is a critical factor in the successful implementation of Electronic Medical Records (EMR) (A. Kurniawan et al., 2025).

Implementation of Electronic Medical Records

Based on the results of the univariate analysis in Table 4.2, it is known that the majority of respondents rated the implementation of Electronic Medical Records (EMR) as high, at 89.7%. These results indicate that the EMR system at Sarkies 'Aisiyiah Hospital in Kudus has been running well and is being optimally utilized by healthcare workers to support the service administration process. This high level of implementation indicates that the system has been accepted by users and is able to effectively support the hospital's operational needs. This is in line with research stating that good EMR implementation is characterized by a high level of use and system integration that supports healthcare services (Cahyani et al., 2024). The high level of EMR implementation in this study can be influenced by several factors, such as the availability of technological infrastructure, ease of use of the system (user-friendliness), and training

for healthcare workers. The availability of adequate hardware and networks allows the system to run smoothly, while ease of use increases user acceptance of the technology. This is in line with research stating that technological factors and human resources are the main determinants in the success of health information system implementation (YW Putri et al., 2024).

Furthermore, easy access to patient data and speed in inputting and searching for information are also important factors in supporting the implementation of EMR. A system capable of providing data quickly and accurately will improve the work efficiency of healthcare workers and expedite the service process. Research shows that the use of electronic medical records can significantly increase the speed of information access and reduce patient data search time compared to manual systems (Rusdi et al., 2024). However, although the implementation of electronic medical records is high, the hybrid system still used in hospitals can pose challenges in system optimization. The use of a hybrid system, which is a combination of electronic and manual systems, has the potential to cause duplication of work and increase the workload of healthcare workers if not managed properly. This is in line with research stating that hybrid systems can cause inefficiencies if not accompanied by optimal system integration (A. Kurniawan et al., 2025). Overall, the results of this study indicate that the implementation of Electronic Medical Records at Sarkies 'Aisyiyah Hospital in Kudus has been running well, but still requires optimization, especially in terms of system integration. Efforts to improve implementation quality can be achieved through increased training, strengthening technological infrastructure, and developing more integrated systems to maximize administrative efficiency. This is supported by research indicating that successful implementation of electronic medical records requires management support, ongoing training, and comprehensively integrated system readiness (Belrado et al., 2024).

Hospital Administration Efficiency

Based on the results of the univariate analysis in Table 4.3, it is known that hospital administrative efficiency is dominated by the efficient category, which is around 85% of respondents, while the remainder are in the inefficient category with a proportion of less than 15%. These results indicate that the majority of healthcare workers assess that the administrative process at Sarkies 'Aisyiyah Hospital in Kudus has been running optimally after the implementation of Electronic Medical Records (ERD). The high percentage of the efficient category indicates that the administrative system is able to support speed, accuracy, and ease in overall healthcare services (Rusdi et al., 2024). Administrative efficiency in this study is also evident in the acceleration of patient service times. With the electronic medical record system, the process of registration, recording, and searching for patient data can be done more quickly than with a manual system. This has an impact on reducing patient waiting times and improving the quality of healthcare services. Statistically, the dominance of respondents in the efficient category, reaching more than 85%, indicates that the majority of healthcare workers feel an increase in service speed after the implementation of electronic medical records (Cahyani et al., 2024). Furthermore, administrative efficiency is also demonstrated through the speed of access to patient information. An electronic medical record system allows patient data to be available in real time and accessible to healthcare professionals without having to search for physical documents. This increases service effectiveness and supports faster and more accurate decision-making. The high proportion of respondents in the efficient category indicates that the system is capable of providing information quickly and in an integrated manner (Belrado et al., 2024). Reducing data duplication and recording errors is also an important indicator of administrative efficiency. With an electronic medical record system, patient data is stored in a single, integrated database, reducing duplication and minimizing data input errors. This is reflected in the high number of respondents in the efficient category, indicating that most healthcare professionals experienced a reduction in administrative errors after using the electronic system (YW Putri et al., 2024).

Administrative efficiency is also evident in the increased productivity of administrative staff. The electronic medical record system allows administrative work to be completed more quickly because previously manual processes are automated. Furthermore, the use of electronic medical records also contributes to a reduction in paper use (paperless), which impacts the efficiency of hospital operational

costs. Overall, the dominance of the efficient category, reaching more than 85%, indicates that the implementation of electronic medical records has had a positive impact on work productivity and hospital operational efficiency (A. Kurniawan et al., 2025). Overall, the hospital administrative efficiency in this study was in the high category (efficient), as indicated by the majority of respondents being in the efficient category. This indicates that the implementation of Electronic Medical Records has contributed significantly to improving administrative efficiency, although optimization is still needed, especially in system integration and reducing the use of hybrid systems to maximize efficiency.

The Relationship between Electronic Medical Records Implementation and Hospital Administrative Efficiency

Based on the results of the bivariate analysis using the Spearman Rank correlation test, a significance value of $p < 0.001$ ($p < 0.05$) was obtained, indicating that there is a significant relationship between the implementation of Electronic Medical Records (EMR) and hospital administrative efficiency. This significance value indicates that the alternative hypothesis (H_a) is accepted, so it can be concluded that there is a significant relationship between the two variables in this study in the number of respondents of 155 people. In addition, a correlation coefficient value of $r = 0.514$ was obtained, indicating that the relationship between the implementation of electronic medical records and administrative efficiency is in the moderate strength category (quite strong) and has a positive relationship direction. This means that the better the implementation of Electronic Medical Records, the higher the level of hospital administrative efficiency.

A correlation value above 0.5 indicates a strong relationship between the variables in explaining the relationship between digital systems and administrative performance. This positive relationship demonstrates that the implementation of an Electronic Medical Records system plays a significant role in improving administrative efficiency, particularly in terms of accelerating service processes, improving data accuracy, and reducing duplication of records. An electronic medical records system allows healthcare professionals to access patient data quickly and in an integrated manner, thereby accelerating workflow and improving the effectiveness of healthcare services. This finding aligns with research showing that the implementation of an electronic-based health information system significantly improves hospital operational efficiency (Cahyani et al., 2024).

Furthermore, data integration within the electronic medical record system also contributes to improved coordination between service units. With an integrated system, administrative processes are simplified and no longer require repetitive recording, thus reducing the workload of healthcare workers. This results in increased staff productivity and efficient use of hospital resources. Other research has shown that digitizing medical records can improve service efficiency by reducing recording time and improving the quality of health information (Rusdi et al., 2024). However, the moderate correlation coefficient ($r = 0.514$) indicates that administrative efficiency is influenced not only by the implementation of electronic medical records, but also by other factors such as human resource competence, management support, and technological infrastructure readiness. This suggests that although electronic medical records make a significant contribution, optimization of other supporting factors is still necessary to maximize administrative efficiency. Research also suggests that the success of health information system implementation is influenced by technological, organizational, and human factors simultaneously (Belrado et al., 2024).

It can be concluded that the implementation of Electronic Medical Records has a significant and positive relationship with hospital administrative efficiency, with the strength of the relationship ranging from moderate to strong. Therefore, improving the quality of electronic medical records implementation through more optimal system integration, training healthcare workers, and strengthening technological infrastructure are crucial steps in sustainably improving administrative efficiency.

Research Limitations

This study has several limitations that need to be considered in interpreting the results. First, the study design used was cross-sectional, so the data obtained only describe conditions at a specific point in time and cannot explain the cause-and-effect relationship between the implementation of Electronic Medical Records and hospital administrative efficiency in depth. Second, data collection was conducted using a questionnaire based on respondents' perceptions, thus allowing for subjective biases such as perception bias and social desirability bias. Third, this study was only conducted at one hospital, namely Sarkies 'Aisyyah Hospital in Kudus, so the results have limitations in terms of generalization to other hospitals with different characteristics. Fourth, this study did not examine in depth other factors that could potentially influence administrative efficiency, such as the level of human resource competency, management policies, and the readiness of the overall technological infrastructure. Fifth, the condition of the system, which is still a hybrid (a combination of electronic and manual systems), has not been specifically analyzed in relation to the level of efficiency, so the potential influence of the system cannot be measured comprehensively.

CONCLUSION

This study shows that the implementation of Electronic Medical Records (EMR) at Sarkies 'Aisyyah Hospital in Kudus is in the high category with a percentage of 89.7%, while the hospital's administrative efficiency is in the efficient category at 98.1%. The results of the bivariate analysis using the Spearman Rank correlation test showed a significant relationship between the implementation of Electronic Medical Records and hospital administrative efficiency ($p < 0.001$) with a correlation coefficient value of 0.514 which indicates a positive relationship of moderate strength. These findings indicate that the better the implementation of Electronic Medical Records, the higher the administrative efficiency achieved through increased service speed, ease of access to information, and reduction of errors and data duplication in hospital administrative processes.

This study has limitations due to its cross-sectional design, so causal relationships cannot be fully explained. Furthermore, the study was conducted in only one hospital and used data based on respondents' perceptions, so the results are still limited in their generalizability. Future research is recommended to involve hospitals with more diverse characteristics, use a longitudinal or mixed methods design, and examine other factors such as human resource competency, management support, technological infrastructure readiness, and the effectiveness of the hybrid system on administrative efficiency. Practically, the results of this study can serve as a basis for the management of Sarkies 'Aisyyah Kudus Hospital to optimize the implementation of Electronic Medical Records through improved system integration, strengthened technological infrastructure, and ongoing training for healthcare workers to improve administrative efficiency and service quality.

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