

Analysis Of The Use Electronic Medical Record In Supporting Work Effectiveness Of Medical Record Unit at Puskesmas Tegalbugub

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Abstract: *The study aims The Analysis of the use electronic medical records in supporting Work effectiveness of medical record unit at Puskesmas Tegalbugub. The method of research used is a qualitative descriptive approach with study data collection interviews, observation and documentation. Studies show that electronic medical records play an important role and have a positive effect in the service and improving the effectiveness of services at Puskesmas Tegalbugub as efficient in of patient care and the recording and easier to see all reports as well as officers working to reduce the burden of medical record. But there are a number of problems and obstacles to send medical record service performance such as lack of medical officer recorder in accordance with relevant educational background, the internet network unstable and still not to use officers adapted the uses of the electronic medical record and have not adapt to the new system. Advice to propose the addition of a medical officer who has a background education to be relevant, held training officers to make maximum use of electronic medical record, do maintance and upgrade the network and upgrade the current tegalgubug specifications*

Keywords: *Medical Record Electronic, Service effectiveness, Medical Record.*

INTRODUCTION

The quality of health services given by the government to set forth in the Indonesian (Permenkes 2019) about the technical standard of the fulfillment of minimum service quality in the health sector, minimum standards of service are under on the type and quality of basic service is the business of government has obtained to every citizen. And affirmed to indicators of quality service in (Kementerian Kesehatan 2022) for the ministry of health national health service quality practices independent doctors and dentists, clinic, community health center, the hospital, health laboratory, and blood transfusion, that the national quality of health services are one of the tools to assess and evaluate practices independent doctors and dentists, clinic, community health center, the hospital, health laboratory, and blood transfusion in maintaining and improving the quality of health services. This focuses on improving the quality of health services to the community. This development indicates increasing public expectations for quality health services. To answer society's increasing demands for health services, a "one step

quality service" approach is a must. This approach aims to ensure that all health care needs and related services can be accessed easily, provided quickly, precisely, with high quality and at an affordable price. The main goal of emphasizing quality is to fulfill customer desires and satisfaction, by providing commensurate value to improve the overall quality of customer life. According to (Bunga Tiara Carolin et al. 2023) positive there is a correlation between an offered in customer satisfaction, that is the high value given and increased customer satisfaction. One example of the health care industry computerized document management is currently widely used throughout the world is (EMR) Electronic Medical Record. Electronic Medical Record (EMR) digital is a system used to record and managing patient information, as well as medical history, the results of the inspection, and a prescription. The application of Electronic Medical Record (EMR) can improve health care by driving fluent related communication between doctors care, to improve efficiency, simplify the exchange of information, and pushes the responsibility of collaborative with patients. Benefits attached from Electronic Medical Record (EMR) is a patient can access electronic medical record one easily in the hospital, that can be accessed at any time (Amin et al. 2021)

According to (Permenkes No. 24, 2022) all health services to provide medical record both in manual and electronic format. Medical record includes a variety of comprehensive information, who not only function as documentation of the data of the patient. (Haqqi 2020) serves as the medical record all storage information related to health services provided to patients at the health facilities. Further, medical record can serve as evidence to assess skills of human resources in health facilities.

According to (Aulia Az-Zahra Rizky and Sari 2023) that the electronic medical records applied have a high level of accuracy and form in terms of safety, integrity, availability, work quality, work quantity and working time. The application of electronic medical records aims to improve labor efficiency in managing medical records. Electronic medical records facilitate quick and easy retrieval of information, improve data integration between hospital management systems and other systems to reduce human error, reduce the need for physical storage space for medical records, and offer several other advantages. However, there are currently many hospitals and other health facilities that still use manual methods to maintain medical records. The utilization of manual medical records is characterized by slowness, susceptibility to errors, and lack of effectiveness and efficiency.

Health information must be preserved using more innovative and efficient methods in terms of its use, such as electronic medical records. Electronic medical records are gradually replacing paper-based medical records in developing countries and certain industries. The main goal is to improve the efficiency of the doctor's decision-making process in the diagnosis and treatment of patients. The purpose of the implementation of the electronic medical record system is to improve patient comfort. Patients are no longer required to keep and present their medical registration card every time they are treated at a healthcare facility. Alternatively, a patient's database can be accessed easily by simply mentioning their name or other identifying information (Melelo 2023).

Certain healthcare facilities continue to face challenges in terms of the implementation of electronic medical records. Studies from (Juliantari et al. 2023) highlighting the challenges faced by Ari Canti Hospital in implementing Electronic Medical Records (EMR) in outpatient care. Constraints that include unintentional downtime, network issues, and system errors caused by users that deviate from technical instructions.

Based on the results of the researcher's survey, the problem that occurred in the medical record unit of the Tegalgubug Health Center was that there was still a shortage of personnel with the title of Diploma-III Medical Record and Health Information and only one officer at Puskesmas Tegalgubug but usually assisted by other officers. Another problem is the need for training and having to adapt to a system that requires more intensive time for medical recorders. Internet network facilities are still lacking and the integration of electronic medical record

systems has not been fulfilled. There are many obstacles in the implementation of electronic medical records as well as the existence of an error system, the lack of human resource skills in using computers or laptops and the risk of sudden power outages.

The beginning of the application of electronic medical records for the first time was that there were several difficulties and needed to adapt to the new system. Disturbances in the internet network connection, then power outages and system errors that make the electronic medical record application take up a lot of work time and inadequate facilities and infrastructure, making the work less than optimal. Therefore, based on the problems faced above and the absence of previous research similar to the research location, the researcher intends to take the title of the research " Analysis of the use electronic medical records in supporting Work effectiveness of medical record unit at Puskesmas Tegalbugug ”.

Literature Review

Medical Record Electronic

According to (Permenkes No. 24, 2022) About Electronic Medical Records are medical records made using an electronic system intended for the implementation of medical records. Explaining that electronic medical records must meet three principles of data and information security, namely: (1) The principle of confidentiality, the principle of confidentiality aims to ensure that data and information are maintained from access by unauthorized parties. (2) Integrity principle, the integrity principle aims to maintain the accuracy of data and information, so that only people who have access rights can make changes to the data. (3) The principle of availability, the principle of availability gives priority to the availability of information when connected with related parties. Medical records are a communication tool that must always be available appropriately and be able to display data that has been stored previously.

Effectiveness of Health Services

(Justin Caron and R 2016) Effectiveness is a success achieved through a goal or goal that has been set predetermined. In achieving effectiveness, efforts are needed that will later become goals that can be achieved according to the expected effectiveness.

(Ariani 2023) Work effectiveness is an effort to achieve maximum performance in a relatively short time.

Parameters in the measurement of work effectiveness include:

(1) Quality of work

The quality of work is related to the quality of the work results provided by employees to the company. Work quality includes the quality of human resources related to ability, namely the ability to achieve work targets related to product quantity, product quality, punctuality, and budget.

(2) Working Quantity

Work quantity refers to the volume of work produced by employees under normal conditions. This is seen from how many tasks can be completed within a predetermined period of time.

(3) Working time

The time factor is one of the important factors that need to be considered in completing the tasks carried out. Completion of work in a short time may mean work efficiency achieved by employees.

Research Methods

This study uses a qualitative descriptive approach. According to (Jasmin et al. 2023) The qualitative descriptive approach is the analysis of data obtained (in the form of words, images or behavior), and is not expressed in the form of numbers or statistical figures, but by providing an exposure or description of the situation or condition being studied in the form of a narrative description. According to (Rusandi and Muhammad Rusli 2021), The stages of descriptive qualitative research are:

- (1) Formulation of problems in research
 A researcher must identify the questions asked and must be relevant to his research so that the answers can be solved in the field
- (2) Determine the research data
 Researchers choose the information needed to solve a problem that has already been created.
- (3) Determine data collection techniques
 The researcher determines the tools used in selecting the research instrument. In qualitative descriptive research, the researcher himself is usually the person who conducts observations, interviews, and documentation research, so that the researcher becomes a person and the researcher himself.
- (4) Making research conclusions
 The researcher draws a conclusion from the results of qualitative descriptive research and writes it in a report

In this study, the sampling technique uses *purposive sampling*. The sample in this study consisted of three people, namely medical recording officers, registration officers, and doctors at Puskesmas Tegalgubug, especially in the medical record unit. The data collection techniques carried out by the researcher are observation, interviews and documentation. The data analysis used in this study is that the researcher analyzes the issues that arise in the data, understands the participants' thoughts, and interprets the meaning of the data. Data analysis is carried out by providing an exposure or description of the situation or condition being studied in the form of a narrative description.

Results and Discussion

The researcher conducted interviews with all resource persons at the same time on August 28, 2024 about the electronic medical record system at Puskesmas Tegalgubug. Here are the results of the interview.

No	Question	Resource	Answer
1	When did the electronic medical record system start to be implementing at Puskesmas Tegalgubug ?	dr. Hanita Widya	“The implementation of the electronic medical record system at Puskesmas Tegalgubug was initially introduced and tested in March 2024, but not long after in April 2024 it was decided to start the road of this electronic medical record system. As time goes by, we evaluate this
	What were the advantages of		

	implementing the electronic health record system at Puskesmas Tegalgubug ?		electronic medical record system, we get a lot in terms of its positives and negatives. In terms of positives, the benefits we get from the implementation of this electronic medical record system are that it can easily attract the most disease data, so that Puskesmas Tegalgubug can evaluate and monitor local areas. However, there are disadvantages of this electronic medical record system, such as the inhibiting factors, namely system downtime, computer errors that are slow in processing data, disturbances in the network that are less stable and also when there is a power outage. The impact that occurred above makes the implementation of electronic medical records not timely or not real time. Then in terms of human resources who are lacking in mastering computers at the same time as not being used to using a new system, making compliance in filling in the completeness of the patient's electronic medical record has not been filled in completely“
	What factors have arisen after the implementation of electronic medical records ?		
	What kind of impact does network system disruption have on the implementation of electronic medical records ?		
	What is the level of compliance of officers in filling out the completeness of electronic patient records ?		
2	When did the electronic medical record system start to be implementing at Puskesmas Tegalgubug ?	Indy Rahma Novi Dwiyanti, A.Md.RMIK	"The Puskesmas Tegalgubug began to implement the electronic medical record system at the beginning of the trial in March 2024 and began running in April 2024. The benefits felt after implementing the electronic medical record system at Puskesmas Tegalgubugare more efficient in terms of recording and easier to view all reports and reduce the workload of medical recording officers. However, the inhibiting factors that arise after the implementation of electronic medical records are frequent and sudden power outages, system errors in applications, and internet network disruptions. Several times there have been disruptions caused by unstable networks and system disruptions after updating the electronic medical record system from vendors which can hamper the registration process
	What were the advantages of implementing the electronic health record system at Puskesmas Tegalgubug ?		
	What factors have arisen after the implementation of electronic medical records ?		
	What kind of impact does network system disruption have on the implementation		

	of electronic medical records ?		and patient services. The impact that occurred during the disruption of the network system in the implementation of electronic medical records that were not real time and for the level of compliance of officers in filling in the completeness of patients' electronic medical records, there were still some poly officers who were less compliant because they did not understand the process and were not familiar with the new system"
	What is the level of compliance of officers in filling out the completeness of electronic patient records ?		
3	When did the electronic medical record system start to be implementing at Puskesmas Tegalgubug ?	Renaldi Gilang Iskandar	"The Puskesmas Tegalgubug will start running using an electronic medical record system in April 2024. The benefits felt are reducing the workload in terms of writing in the registration section and efficient registration service time, but there are inhibiting factors that arise after the implementation of electronic medical records are frequent power outages and the existence of an error system in applications from unstable networks. The impact that occurred during the implementation of the electronic medical record system is that the registration service flow becomes long and also takes up a lot of work time and in terms of compliance, officers in filling in the completeness of the patient's electronic medical record may still not comply because they are not used to it and have not fully adapted to this new system.".
	What were the advantages of implementing the electronic health record system at Puskesmas Tegalgubug ?		
	What factors have arisen after the implementation of electronic medical records ?		
	What kind of impact does network system disruption have on the implementation of electronic medical records ?		
	What is the level of compliance of officers in filling out the completeness of electronic patient records ?		

Table 1. the results of the interview at Puskesmas Tegalgubug

Based on the results of interviews from the three sources above, it can be explained how the picture of the flow of electronic medical records at the *Puskesmas Tegalgubug* is described.

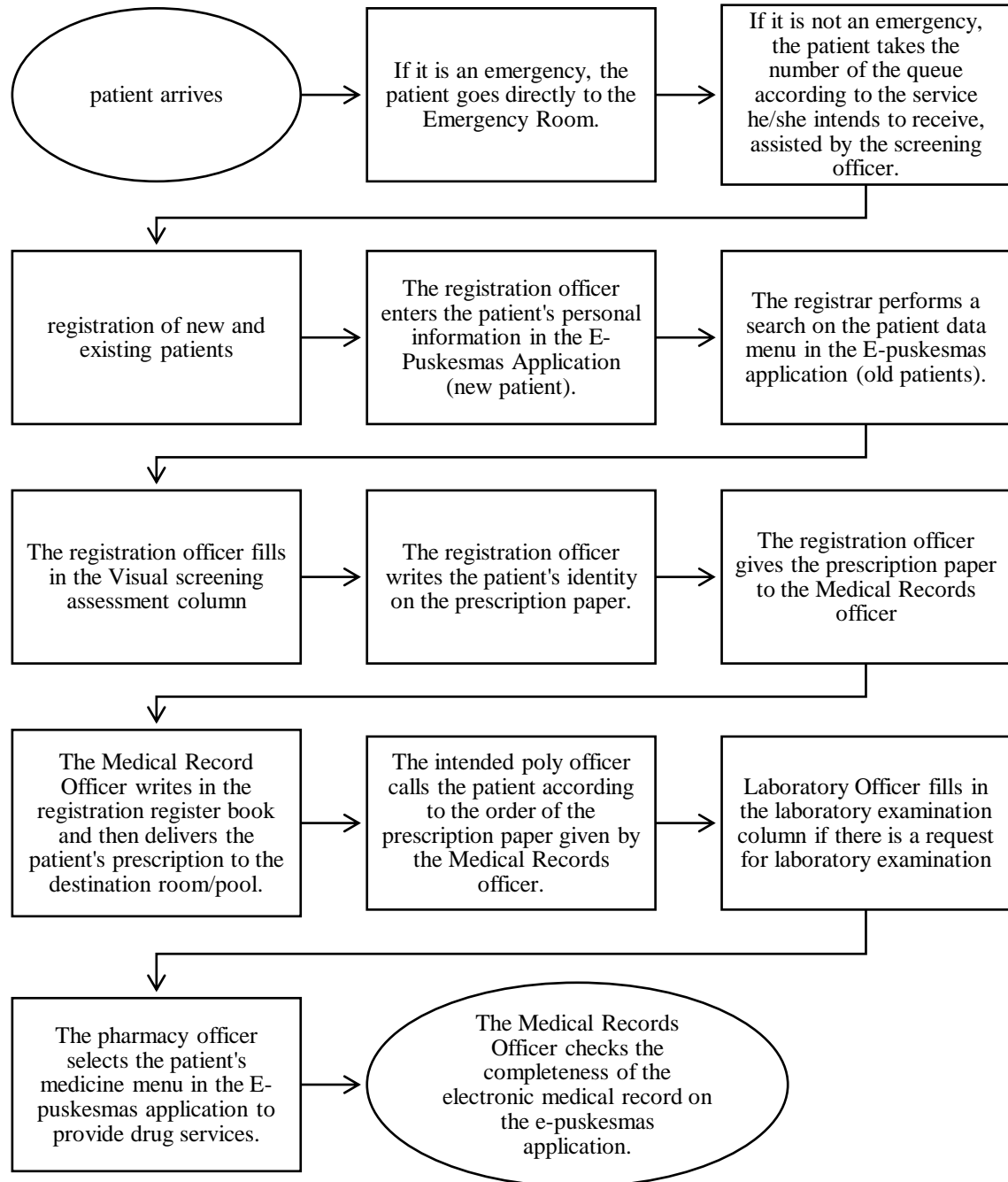


Table 2. Flow of Electronic Medical Records at Puskesmas Tegalgubug

The Minister of Health of the Republic of Indonesia has legally abolished Regulation No.269/MENKES/PER/III/2008 concerning Medical Records by issuing a new regulation, namely Minister of Health Regulation Number 24 of 2022 concerning Medical Records. Minister of Health of the Republic of Indonesia Number 24 of 2022 to become a guideline, regulate, and control it. From 2008 to 2022, there has only been an update for 14 years, this

proves that the changes in regulations that have occurred indicate the need for innovation in the health sector, especially in the medical record section whose goal is to improve excellent and high-quality services in terms of recording patient disease history in health services.

From the interview above, it indicates that the implementation of the electronic medical record system at Puskesmas Tegalgubug is very important in providing health services because there are many benefits that are not only efficient in terms of services, such as reduced workload, faster patient waiting time. In terms of reporting, the implementation of this electronic medical record system is very easy and concise to obtain. An example is that it can easily pull data on the most disease reports that often occur at Puskesmas Tegalgubug, so that the Puskesmas Tegalgubug can easily and quickly evaluate and monitor the local areas that are covered by the Tegalgubug Health Center. From the collection of data and information obtained from the application of this electronic medical record system, it is necessary to use it as a follow-up plan material for the advantages and disadvantages of health services at Puskesmas Tegalgubug. The main objectives of implementing electronic-based medical records at Puskesmas Tegalgubug are to increase customer satisfaction, improve the accuracy of documentation, minimize clinical errors, optimize efficiency, service quality, make it easier to make a report and accelerate access to patient data.

However, it is undeniable that after the implementation of the electronic medical record system at Puskesmas Tegalgubug, there are many obstacles that must be overcome so that the implementation of electronic medical records can be managed effectively and efficiently. Inhibiting factors such as internal factors such as *system downtime*, computers that are slow in managing data, unstable internet networks, applications that experience errors due to updates to the electronic medical record system from the vendor. Not to mention the obstacles from external factors such as power outages, all of which make services at Puskesmas Tegalgubug slower in patient registration and service. The impact that will occur from the above disturbances is that the implementation of the electronic medical record system at Puskesmas Tegalgubug is not on time or not *in real time* and makes the flow of registration and services at Puskesmas Tegalgubug long and also takes up a lot of work time.

In Indonesia, many studies have shown the challenges and complexities associated with the implementation of electronic medical record systems. Starting from officers who do not understand how to use a computer and then the lack of understanding of officers about electronic medical record systems. The difficulties faced by the implementation of this electronic medical record system make health workers have to adopt electronic medical records, although their knowledge about it is still limited due to lack of training. Additional variables that exacerbate this problem include a lack of computer proficiency among other health workers, a lack of computer literacy, and a lack of awareness about the benefits of using electronic medical record systems in health facilities (Siswati et al. 2024).

The implementation of the electronic medical record system in Indonesia can be concluded that it is still far from perfect, actually, various problems arise after the implementation of the electronic medical record system is carried out, such as the guarantee of a legal umbrella that still lacks clarity for elements *of privacy, confidentiality* and information security in general. In overcoming the many challenges from various factors that arise and arise as a result of the implementation of electronic medical record systems, it is necessary for health services to evaluate the system to assess the performance of health facilities that have adopted it. This is done to assess the efficacy of the implementation of the electronic medical record system in terms of its use and from the results of the evaluation it will be used as a material and data for follow-up plans in the future.

Conclusion

Based on the results of the research Analysis of the use electronic medical records in supporting Work effectiveness of medical record unit at Puskesmas Tegalgubug, the implementation of the electronic medical record system plays a very important role and has a very positive effect in terms of services at Puskesmas Tegalgubug and can significantly increase the effectiveness of services at Puskesmas Tegalgubug, such as being efficient in terms of patient services, recording, It is easier to view all reports and also reduce the workload of medical recorders. However, there are several obstacles and obstacles that arise when the implementation of this medical record system is implemented, namely the lack of medical record officers who are in accordance with relevant educational backgrounds, can reduce the performance of medical record services such as unstable internet networks and are still unaccustomed to officers in adapting and adjusting the use of new systems or electronic medical record systems.

Suggestion

Based on the results of the research on the analysis of the use electronic medical records in supporting work effectiveness medical record unit at Puskesmas Tegalgubug, that the suggestions that can be given by the researcher are to propose the addition of medical record officers by having relevant educational backgrounds, conducting training for officers to maximize the use of the electronic medical record system, conducting *maintenance* and *network upgrades* and *computer upgrade* with the latest specifications at Puskesmas Tegalgubug.

References

- Amin, Muh et al. 2021. "Implementasi Rekam Medik Elektronik: Sebuah Studi Kualitatif." *JATISI (Jurnal Teknik Informatika Dan Sistem Informasi)* 8(1):430–42. doi: 10.35957/jatisi.v8i1.557.
- Ariani, Suci. 2023. "Analisis Keberhasilan Implementasi Rekam Medis Elektronik Dalam Meningkatkan Efisiensi Dan Mutu Pelayanan." *Jurnal Kesehatan Dan Kedokteran* 2(2):7–14. doi: 10.56127/jukeke.v2i2.720.
- Aulia Az-Zahra Rizky, and Irda Sari. 2023. "Analisis Rekam Medis Elektronik Dalam Menunjang Efektivitas Kerja Di Unit Rekam Medis Di Rumah Sakit Hermina Pasteur." *INFOKES (Informasi Kesehatan)* 7(1):21–31. doi: 10.56689/infokes.v7i1.1028.
- Bunga Tiara Carolin et al. 2023. "Faktor Yang Berkaitan Terhadap Mutu Pelayanan Kesehatan Dengan Tingkat Kepuasan Pasien." *Cendekia Medika: Jurnal Stikes Al-Ma'arif Baturaja* 8(1):64–72. doi: 10.52235/cendekiamedika.v8i1.214.
- Haqqi, Abdul. 2020. "J-REMI : Jurnal Rekam Medik Dan Informasi Kesehatan." *J-REMI: Jurnal Rekam Medik Dan Informais Kesehatan* 1(4):564–74.
- Jasmin, Muh et al. 2023. "Metodologi Penelitian Kesehatan." 1–155.
- Juliantari, Ni Ketut et al. 2023. "Gambaran Proses Implementasi Rekam Medis Elektronik Di Unit Rawat Jalan Dengan Metode Hot-Fit Di Rumah Sakit Umum Ari Canti." *The Journal of Management Information and Health Technology* 1(1):29–34.
- Justin Caron, and Markusen James R. 2016. "濟無No Title No Title No Title." 17(2):1–23.
- Kementrian Kesehatan. 2022. "Peraturan Menteri Kesehatan Republik Indonesia Nomor 30 Tahun 2022 Tentang Indikator Nasional Mutu Pelayanan Kesehatan Tempat Praktik Mandiri Dokter Dan Dokter Gigi, Klinik, Pusat Kesehatan Masyarakat, Rumah Sakit, Laboratorium Kesehatan, Dan Unit Transfu." *Menteri Kesehatan Republik Indonesia Peraturan Menteri Kesehatan Republik Indonesia* (879):2004–6.
- Melelo, Shutura Shura. 2023. "No 主観的健康感を中心とした在宅高齢者における健康関連指標に関する共分散構造分析Title." 5(9):1–14.
- Peraturan Menteri Kesehatan. 2019. "Peraturan Menteri Kesehatan RI No 4 Tahun 2019 Tentang Standar Teknis Pemenuhan Mutu Pelayanan Dasar Pada Standar Pelayanan Minimal Bidang." *Peraturan Menteri Kesehatan* (68):1–9.
- Permenkes No. 24. 2022. "Peraturan Menteri Kesehatan RI No 24 Tahun 2022 Tentang Rekam Medis." *Peraturan Menteri Kesehatan Republik Indonesia Nomor 24 Tahun 2022* 151(2):1–19.
- Rusandi, and Muhammad Rusli. 2021. "Merancang Penelitian Kualitatif Dasar/Deskriptif Dan Studi Kasus." *Al-Ubudiyah: Jurnal Pendidikan Dan Studi Islam* 2(1):48–60. doi: 10.55623/au.v2i1.18.
- Siswati, Sri et al. 2024. "Analisis Tantangan Kesiapan Implementasi Rekam Medis Elektronik Di Puskesmas Kota Padang." *Jurnal Kesehatan Vokasional* 9(1):1. doi: 10.22146/jkesvo.92719.