



The Relationship of Implementation of The Electronic Prescription System on User Satisfaction in General Hospital Royal Prima Medan

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<p>Track Record Article</p> <p>Accepted: 12 December 2023 Revised: 31 December 2023 Published: 14 January 2024</p> <p>How to cite : Dhillon, J., Ginting, Novalinda, C., & Nasution, Wahyuni, S. (2024). The Relationship of Implementation of The Electronic Prescription System on User Satisfaction in General Hospital Royal Prima Medan. <i>Contagion: Scientific Periodical Journal of Public Health and Coastal Health</i>, 6(1), 232–240.</p>	<p style="text-align: center;">Abstract</p> <p><i>The use of ICT is also utilized in the health sector to increase the effectiveness of services to the community. Electronic prescriptions have been widely used in hospitals to replace manual prescriptions. In several studies, electronic prescriptions are said to have many advantages, including reducing the incidence of prescribing errors. The location of study is General Hospital Prima Medan. The aim of this research is to determine the relationship between the implementation of an electronic prescription system and user satisfaction at General Hospital Royal Prima Medan. The type of research used in this research is descriptive correlational using a quantitative approach at General Hospital Royal Prima Medan and this study was 137, divided into 124 doctors and 40 pharmacy officers. The data analysis used in this research is univariate analysis and bivariate analysis. Data analysis in this study used univariate, bivariate, multivariate analysis using the SPSS Version 25 statistical application. The research results showed that a significant relationship between the implementation of the electronic prescription system and user satisfaction at General Hospital Royal Prima Medan with a very strong level of relationship, and this correlation is significant because $p < 0.05$ ($0.000 < 0.05$), So it can be concluded that there is a relationship between the implementation of the electronic prescription system and user satisfaction at General Hospital Royal Prima Medan. The results of research regarding the relationship between the implementation of the electronic prescription system and user satisfaction at General Hospital Royal Prima Medan which has been carried out show that 110 respondents said the implementation of electronic prescriptions at General Hospital oyal Prima Medan was good with a percentage of 80.3%, 27 respondents were not doing well with a percentage of 19.7% of the total respondents in this study of 137 respondents.</i></p> <p>Keywords: <i>Electronic, Hospital, Implementation, Prescriptions, Satisfaction</i></p>
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INTRODUCTION

Health is important for humans because without good health, every human being will have difficulty carrying out their daily activities (Andi). Health is a state of good physical condition, good mental health, and also social well-being, not just the absence of disease or weakness (Franki & Irda, 2022). Health services provided by public hospitals as referred to in the Regulation of the Minister of Health of the Republic of Indonesia Number 3 of 2020 concerning Hospital Classification and Licensing consist of at least a medical services and medical support, nursing and midwifery services and non-medical services (Akyuni, 2019). Non-medical services as referred to in include pharmaceutical services, laundry/laundry services, food processing/nutrition, maintenance of medical infrastructure and equipment, information and communication, corpse circulation, and other non-medical services (Rahmatini, 2017).

Pharmaceutical services are the most risky units in hospitals in supporting the quality of health services (Ardy). Pharmaceutical services in hospitals are an inseparable part of the hospital health service system which is oriented towards patient service, providing quality and affordable pharmaceutical preparations, medical devices and consumable medical materials for all levels of society, including clinical pharmacy services (Rifqa, 2019). Pharmaceutical services are activities that aim to identify, prevent and resolve drug-related problems (Rifqa, 2019).

The process of giving prescriptions to patients sometimes causes errors, both errors in diagnosis and errors in prescribing (Amanda & Gusti, 2020). In research conducted by (C *et al.*, 2019), the percentage of medication errors that occurred at the prescribing stage at the Bitung Regional Hospital Internal Polyclinic showed that 74.53% had no dosage form, 20.87% had no dosage form, 62.87% had no the patient's age, and 6.50% of prescription writing is illegible or unclear, resulting in the potential for medication errors (Maydianto & Ridho, 2021). Medication errors are errors in the prescribing process and failures in the treatment process that have the potential to result in harm and can harm the patient (Ridho, 2022). Therefore, health services realize the importance of making changes to reduce medication errors, one of which is by creating an electronic prescription system (Arinda, 2018).

Information and communication technology (ICT) is currently developing very rapidly in providing services and convenience for the community, the use of ICT is also utilized in the health sector to increase the effectiveness of services to the community (Kokita, 2021). One of the innovations carried out in the health sector to improve services is by implementing the e-health concept. The term e-health consists of "E (Electronic)" which means electronic and "Health" which means public health in general ((Putro & Sa'adah, 2021). The definition of e-health is a community service in the form of information and communication technology (ICT) applications that are connected to all supporting functional elements of the health sector as its knowledge base (Sudarmadji *et al.*, 2018). One e-health program that can be implemented in hospitals is e-prescribing. E-prescribing or what is usually called electronic prescribing is electronic technology that allows doctors to write prescriptions electronically and send them to the computer directly from the doctor's practice or place of care (Farida *et al.*, 2019).

Electronic prescriptions have been widely used in hospitals to replace manual prescriptions. In several studies, electronic prescriptions are said to have many advantages, including reducing the incidence of prescribing errors (Cahaya & Ciptayani, 2019). Efforts to prevent the occurrence of medication errors can be done with computerized intervention, namely by using an electronic prescription system (e-prescribing) (Sabila, 2018). With the use

of electronic prescriptions, it is hoped that it will reduce the intensity of medication errors. Apart from that, the electronic prescription application is also able to improve public services by the government in the health sector (Febi, 2020).

In implementing electronic prescriptions, there are still obstacles, namely high procurement costs, lack of provider support, reduced patient privacy, and system errors (Hutami *et al.*, 2016). Apart from that, the impact of implementing electronic prescriptions is still unclear, several obstacles are still found related to the interaction between technology and human resources, and the management and evaluation of electronic prescriptions is not yet optimal, which has an impact on user satisfaction (Nawi, 2018).

Based on these findings, to ensure the success of the system it is necessary to carry out an evaluation by looking at satisfaction among electronic prescription users (S., 2018). So from the description of the background and results of the pre-survey that the researcher has carried out, the researcher is interested in conducting determine the relationship between the implementation of an electronic prescription system and user satisfaction at General Hospital Royal Prima Medan.

METHODS

This research will be carried out at General Hospital Royal Prima Medan, Royal Prima Medan Hospital is one of the largest private hospitals and will be a referral center for the community, especially the city of Medan and the community of North Sumatra in general. A proud moment, on May 17 2011, the Deputy Minister of National Education of the Republic of Indonesia, Mr. Prof. Dr. Fasli Jalal, PhD. laying the first stone for the construction of the Royal Prima Hospital. On February 14 2013, the Head of the North Sumatra Provincial Health Service issued a Temporary Operational Permit to Royal Prima Hospital Medan No. 440.442/1641/II/TAHUN 2014. On February 16 2014 General Hospital Royal Prima Medan inaugurated.

The type of research used in this research is descriptive correlational using a quantitative approach, namely describing the relationship between the implementation of the electronic prescription system and user satisfaction at General Hospital Royal Prima Medan. The type of research used in this research was descriptive correlational with a quantitative approach at General Hospital Royal Prima Medan and the number of studies was 137, divided into 124 doctors and 40 pharmacy officers. The data analysis used in this research is univariate analysis and bivariate analysis. with an accuracy level of 95%.

The correlation method is a correlation study explaining the relationship between two or more variables, namely the extent to which variations in one variable are related to variations in other variables (Sugiyono, 2017).

Researchers want to use non-probability sampling techniques, Sugiyono (2019) said that non-probability sampling techniques are sampling techniques that do not provide opportunities for each element or member of the population to be selected to be the sample. And researchers will use accidental sampling techniques. According to Sugiyono (2019), accidental sampling is a technique that determines the sample by chance, anyone who meets the researcher by chance if the person they meet by chance is suitable as a data source. In determining the sample in this study, inclusion and exclusion criteria were used.

Respondents included in this research met specific inclusion criteria: they willingly participated, utilized electronic prescription systems, and possessed at least one year of work experience. Conversely, respondents were excluded if they were unwilling to participate, did not use electronic prescription systems, or had less than one year of work experience. These criteria ensured a targeted sample group for the study, facilitating focused analysis and meaningful insights.

So from the description above, the number of samples obtained by researchers based on inclusion and exclusion criteria was 137 samples with details of 97 specialist doctors and 40 pharmaceutical officers. Data analysis in this study used univariate, bivariate, multivariate analysis using the SPSS Version 25 statistical application. After the data was processed, data analysis was then carried out by calculating the proportion of respondent characteristics based on the variables used.

RESULTS

1) Univariate Analysis

Table 1 Distribution of Respondent Characteristics Characteristics of Respondents Based on Age and Gender

Age	n	%
20 – 30 years	53	38,7
31 – 40 years	68	49,6
> 40 years	16	11,7
results	137	100
Gender	n	%
Man	36	26,3
Woman	101	73,7

Source: Primary data processed in 2023

Table.1 explains the characteristics of respondents based on age, respondents aged 20 - 30 years were 53 respondents with a percentage of 38.7%, respondents aged 31 - 40 years were 68 respondents with a percentage of 49.6% and respondents aged > 40 years old, there were 16 respondents with a percentage of 11.7% of the total of 137 respondents, and explains the characteristics of respondents based on gender, 36 male respondents with a percentage of 26.3%, 101 female respondents with a percentage of 73.7% of the total 137 respondents. respondent.

Table 2 Distribution of Respondent Characteristics Based on Length of Work

Characteristics of Respondents Based on Length of Work

Length of working	n	%
< 2 years	41	29,9
> 2 years	96	70,1
results	137	100

Source: Primary data processed in 2023

Table .3 explains the characteristics of respondents based on length of work, respondents with a length of work < 2 years were 41 respondents with a percentage of 29.9%, and respondents with a length of work > 2 years were 96 respondents with a percentage of 70.1% of the total. respondents were 137 respondents.

2) Bivariate Analysis

Implementation of Electronic Prescriptions

The following are the results of univariate analysis on the electronic prescription implementation variable which is explained in table 3. below.

Table 3. Respondents' assessment of the implementation of electronic prescriptions and User Satisfaction at General Hospital General Hospital Royal Prima Medan

Implementation of Electronic Prescriptions	n	%
Good	110	80,3
Not Good	27	19,7
Result	137	100
User Satisfaction	n	%
Satisfied	119	86,9
Not Satisfied	18	13,1
Result	137	100

Source: Primary data processed in 2023

Table 3 explains the results of respondents' assessments regarding the implementation of electronic prescriptions at General Hospital Royal Prima Medan. The results of the research showed that there were 110 respondents who said the implementation of electronic prescriptions at General Hospital Royal Prima Medan was good with a percentage of 80.3%, and respondents who said the implementation of electronic prescriptions at General Hospital

Royal Prima Medan was not good were 27 respondents with a percentage of 19.7 % of the total respondents in this study were 137 respondents.

User Satisfaction

Next, explains the results of respondents' assessments regarding satisfaction with electronic prescription users at General Hospital Royal Prima Medan. The results of the research showed that there were 119 respondents who said they were satisfied with the use of electronic prescriptions at General Hospital Royal Prima Medan with a percentage of 86.9%, and respondents who said they were less satisfied with the use of electronic prescriptions at General Hospital Royal Prima Medan were 18 respondents with a percentage of 13.1% of the total respondents in this study were 137 respondents.

Bivariate Analysis Results

Relationship between the Implementation of the Electronic Prescription System and User Satisfaction at General Hospital Royal Prima Medan

The following are the results of the relationship between the implementation of the electronic prescription system and user satisfaction at General Hospital Royal Prima Medan using the Pearson Correlation Product Moment which is explained in table 4 below.

Table 4. The Relationship between the Implementation of the Electronic Prescription System and User Satisfaction at General Hospital Royal Prima Medan

Variable	User Satisfaction			
	Correlation (r)	Signifikance (p)	Total (n)	Information
Prescription System	0,818	0,000	137	positive correlation, the level of relationship is very strong

Source: Primary data processed in 2023

From table 6 above, it shows that between the implementation of the electronic prescription system and user satisfaction at General Hospital Royal Prima Medan, there is a correlation coefficient (r) of 0.818 with a significance of 0.000. This shows that there is a positive relationship between the implementation of the electronic prescription system and user satisfaction at General Hospital Royal Prima Medan with a very strong level of relationship, and this correlation is significant because $p < 0.05$ ($0.000 < 0.05$). A positive value indicates that there is a positive relationship between Electronic Prescription Implementation and customer satisfaction. This means that if Electronic Prescription Implementation increases, the likelihood of customer satisfaction symptoms will increase, and vice versa.

So, based on these results, it can be concluded that there is a statistically significant relationship between Electronic Prescription Implementation and customer satisfaction. However, the low correlation coefficient value (0.818) indicates that this relationship is a strong

relationship. In a medical context, this could be interpreted as increasing Electronic Prescribing Implementation may increase the likelihood of customer satisfaction, but other factors may also play a role in the phenomenon.

DISCUSSION

Relationship between the Implementation of the Electronic Prescription System and User Satisfaction at General Hospital Royal Prima Medan

There is a correlation coefficient (r) of 0.818 with a significance of 0.000. This shows that there is a positive relationship between the implementation of the electronic prescription system and user satisfaction at General Hospital Royal Prima Medan with a very strong level of relationship, and this correlation is significant because $p < 0.05$ ($0.000 < 0.05$). The results of this research are in line with research conducted by (Amanda & Gusti, 2020) whose results state that the implementation of electronic prescriptions has an influence on user satisfaction. Thus, the evaluation of the implementation of electronic prescriptions is in line with the expectations and benefits felt by users, but it requires more commitment and support from management so that users feel that this system can improve the quality of hospital services (Chairani *et al.*, 2021).

In general, e-prescribing plays a role in preventing medication errors. Medication error is defined as an error in medication prescribing services (Darmawan, 2012). Medication error is also defined as a failure in the treatment process that leads to or has the potential to result in harm and can harm the patient (Pharmacist, 2018).

An electronic prescribing system (e-prescribing) is a prescribing system using software designed to facilitate drug prescribing services starting from the prescribing stage (writing a prescription), the transcribing stage (reading the prescription for the dispensing process), the dispensing stage (preparing to handing over the prescription by officers), administration stage (drug use process) and monitoring process (Tjiptono.F, 2019). The use of e-prescribing is expected to replace manual prescriptions, computer printed prescriptions and computer faxed prescriptions. E-prescribing has several advantages compared to manual prescribing, including preventing the risk of misreading the prescription, being able to provide the right dose of medication, inputting data faster, saving on paper and being more practical (Fidya *et al.*, 2018)..

Electronic prescribing can be linked with other electronic access such as pharmacy information, patient medication history, clinical notes, lab results, clinical diagnosis, and patient status. Electronic prescribing provides fast access to information so that it helps to warn doctors about alternative drugs that can be given to patients, and information about possible

drug interactions, increased drug effects that are detrimental to patients, as well as providing information about patient non-adherence to treatment (Ferika *et al.*, 2020).

CONCLUSIONS

Based on the results of the research that has been carried out, the conclusions in this research are as follows:

1. The majority of respondents in this study were 31-40 years old, 68 respondents, the majority were female, 101 respondents and the majority of respondents had worked at General Hospital Royal Prima Medan for > 2 years, namely 96 respondents.
2. The majority of respondents in this study rated the implementation of electronic prescriptions at General Hospital Royal Prima Medan as good, namely 110 respondents.
3. The majority of respondents in this study said they were satisfied with electronic prescription users at General Hospital Royal Prima Medan, namely 119 respondents.
4. There is a significant relationship between the implementation of the electronic prescription system and user satisfaction at General Hospital Royal Prima Medan with a very strong level of relationship, and this correlation is significant because $p < 0.05$ ($0.000 < 0.05$).

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