Effect of SIM RS GOS on Outpatient Waiting Time in Selected Hospitals, Indonesia

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ABSTRACT

Background: Hospital Management Information System must be used by every hospital in Indonesia to improve the quality of health services, one of which is the SIM RS GOS application owned by the Indonesian Ministry of Health. Outpatient waiting time is a measure of the quality of health services.

Objective: The objective of this study was to analyze the effect of SIM RS GOS application on waiting time in the outpatient polyclinic of RSUD dr. Adnaan WD.

Methods: The research conducted was quantitative research using a quasi-experimental design with a one group pre-test and post test approach. The population in this study were patients at the outpatient polyclinic of RSUD dr. Adnaan WD, with a sample size of 52 respondents.

The data collection instrument used in this study was an observation sheet containing an observation guide for outpatient waiting time. The test analysis used is Wilcoxon because the data is not normally distributed.

Results: The results showed that there was an effect of the SIM RS GOS application on waiting time (p=0.000).

Conclusion: SIM RS GOS Application can reduce patient waiting time at the outpatient polyclinic.

Keywords: waiting time, patient satisfaction, SIM RS GOS, electronic health record

INTRODUCTION

Waiting time is one of the national quality indicators in outpatient units1. One of the dimensions of health care quality is access to services characterized by patient waiting time[2]. The waiting time indicator is used as a tool in the process of evaluating the success of the hospital[3]. Waiting time starts from the patient registering until called to be served by a doctor[4]. Meanwhile, the Indonesian Ministry of Health has set a standard waiting time of 60 minutes from the time the patient registers to get a specialist examination[5].

Although these waiting time standards have been set, there are still many hospitals that have not met the standards set by the Ministry of Health. Several studies on outpatient waiting times show problems where the average waiting time is above the standard with varying lengths of waiting time. A study in the outpatient polyclinic of a Vietnamese hospital found that the average total waiting time was 104.1 minutes [6]. Outpatient waiting time at one of the polyclinics in an Australian hospital, with an average patient waiting time of 131 minutes [7]. While in Indonesia itself also exceeds the waiting time standards,

such as in Brawijaya University Hospital, the waiting time for outpatient services is more than 143 minutes [8]. From some of the several studies above, waiting time has become a problem, both in Indonesia and abroad.

The amount of loss caused by the long waiting time at the hospital forces the hospital to look for strategies to solve the waiting time problem. The SIM RS GOS application is an electronic medical record application owned by the Indonesian Ministry of Health which can be used free of charge by hospitals in Indonesia[9]. When a hospital has implemented SIM RS GOS application in health services, the service can improve, because using the SIM RS GOS Application can facilitate patients who need services and do not wait a long time in the implementation process so as to improve the quality of service to patients[10]. This is in line with the research of one of the hospitals in Saudi Arabia which states that the use of electronic health records reduces the duration of waiting time for outpatients[11]. Likewise, research in one of the hospitals in Indonesia where SIM RS has an effect (71.1%) on reducing waiting time[12].

The Indonesian Ministry of Health states that every hospital in Indonesia is required to record and report on all activities of hospital administration in the form of a Hospital Management Information System (SIM RS), including RSUD Adnan WD[13]. RSUD dr. Adnaan WD is an Indonesian government-owned hospital that will implement the SIM RS GOS application in health services, where in 2023 the average length of outpatient polyclinic service time is 138 minutes [5].

Seeing the above phenomenon, the researcher is interested in conducting research on the effect of the SIM RS GOS Application on patient waiting time at RSUD dr. Adnan WD.

OBJECTIVE

The purpose of this study was to analyze the effect of the application of SIM RS GOS Application on waiting time in the outpatient polyclinic of RSUD dr. Adnaan WD.

METHODS

This study used a quantitative approach with a quasi experimental design of one group pre-test and post-test. The research was conducted in February-March 2024 with a study population of patients at the Outpatient Polyclinic of RSUD dr. Adnaan WD, with a sample size of 52 respondents. The sampling technique was carried out using proportionate stratified random sampling technique which means that it is a technique used when the population has members / elements that are not homogeneous and stratified proportionally. The inclusion criteria for respondents in this study were outpatients at RSUD dr. Adnaan WD, outpatient polyclinic patients who received a re-control letter and were willing to become respondents without coercion from anyone. The independent variable in this study is the application of the SIM RS GOS Application in the outpatient polyclinic of RSUD dr. Adnaan WD, while the dependent variable is outpatient waiting time. The intervention carried out in this study was the application of the SIM RS GOS Application in outpatient polyclinic services, where before the SIM RS GOS Application was implemented, the waiting time was measured, then when the respondent had repeated treatment, the waiting time was measured again with services that had implemented the SIM RS GOS Application. The data collection instrument used is a patient characteristic instrument to identify sociodemographics consisting of gender, age, education, and occupation. As well as an observation sheet containing an observation guide for outpatient waiting time. Univariate analysis was used to determine the distribution of characteristics of the study variables, including the frequency of

gender, age, education, and occupation. Meanwhile, bivariate analysis was conducted to assess the impact of the application of SIM RS GOS Application at RSUD dr. Adnaan WD on waiting time in outpatient polyclinics. This study obtained an ethical permit from the Ethics Committee of the Faculty of Nursing, Andalas University with No.176.laiketik/KEPKFKEPUNAND.

RESULT
Univariate Analysis
Univariate analysis was based on gender, age, education, and occupation (Table 1).

Table 1. Socio-demographic Frequency Distribution of Patients By Gender, Age, Education, and Occupation (n=52)

Patient Socio-Demographics	Category	f	%
Gender	Male	26	50
	Female	26	50
Age	<18 Years	12	23,1
	18-25	4	7,7
	26-35	3	5,8
	36-45	6	11,5
	45-55	8	15,4
	>55	19	36,5
Education	Not yet in school	5	9,6
	Elementary School	7	13,5
	Junior High School	8	15,4
	Senior High School	19	36,5
	Higher Education	13	25
Jobs	Not Working / Housewife	26	50
	Farmer/Laborer/Merchant/Employed/Private Employee	20	38,5
	PNS/BUMN/TNI/POLRI/Pensioner	6	11,5

Based on table 1. obtained the distribution of respondents, about half were women who had not worked or were housewives, with a total of 26 respondents (50.0%). Almost half of the respondents had an age above 55 years and a senior high school education, as many as 19 respondents (36.5%).

Bivariate Analysis
Bivariate analysis The results of testing the normality of waiting time variable data using the Kolmogorov Smirnov test, with the results of a significance value < 0.05, where the waiting time data is not normally distributed. Then testing the difference in the average waiting time of patients in the

outpatient polyclinic between before and after the application of the SIM RS GOS in this study using the Wilcoxon test with the results can be seen in table 2.

Table 2. Mean difference in waiting time Before and After Implementation of GOS Hospital SIM Application (n=52)

Variables	Measurement	pretest		posttest		Difference	p value
		Median	Min-Max	Median	Min-Max	Mean	
Waiting Time	Pre Test Post Test	75,74	38,47-162,37	48,26	21,27-115,80	27,48	0,000

Based on table 2. shows the results of the Wilcoxon test, the average waiting time for patients before and after the application of the SIM RS GOS Application with a mean difference of 27.48 which means there is a decrease in waiting time. From the statistical test results, the p value is 0.000 where the p value <0.05 so that it can be seen that there is a difference in the average waiting time before and after the application of the RS GOS SIM Application, which means that there is a positive effect on the application of the RS GOS SIM Application on waiting time.

DISCUSSION

The results showed that outpatients at RSUD dr, Adnaan WD in the February-March 2024 period were half women who had not worked or were housewives, with a total of 26 respondents (50.0%). Almost half of the respondents had an age above 55 years and a senior high school education, as many as 19 respondents (36.5%). The use of health services by female respondents is also due to the traditional role of women as housewives who are mostly at home, while men have to work outside the home as the head of the family[14]. From the results of this study, most respondents were in the age group >55 years. Seeing the age of the respondents shows that the respondents have been able to assess which services are satisfying and which services are not satisfying at RSUD dr. Adnaan WD. Age is important in a health study, as age increases, experience also increases, for respondents, the more mature a person is, the better the assessment of satisfactory service quality[15]. Age is one of the factors that affect customer satisfaction, where the more satisfied the customer is, the effect will be to return to use the same health services repeatedly and be able to influence other consumers to participate in the purchase of these services[16]. Education is a process of changing the attitudes and behavior of a person or group and an effort to mature humans through teaching and training efforts, the higher the education, the more knowledge is obtained[17]. Education, knowledge, and the development of high information technology demand better health services from time to time. Patient education can influence the selection of health services in accordance with the values and expectations that patients want for health services, including fast waiting times[15]. The level of education can influence a person's rational and irrational mindset in making decisions, using, or utilizing a health service[15]. Education will affect a person's judgment, an increase in a person's education will increase the desire to improve their skills and knowledge[18]. The skills here referred to are skills in choosing health services when patients need fast responsive services.

This study found the p value was 0.000 where the p value was <0.05, the pretest mean was 75.74 and the posttest was 48.26 with a mean difference of 27.48 so it can be concluded that there is a difference in the average waiting time before and after the application of the SIM RS GOS. This finding shows that the implementation of SIM RS can result in a more efficient process in reducing waiting time and

improving access to health services faster. The revolution of traditional medical records into SIM RS is something that cannot be avoided by health services. This is in accordance with the Indonesian government policy where every hospital is required to implement a Hospital Information System including RSUD dr. Adnaan WD which uses SIM RS GOS as a home information system to improve the efficiency and quality of health care [13]. One important interesting aspect of the use of SIM RS GOS at RSUD dr. Adnaan WD is its effect on waiting times. Several researchers have conducted studies to investigate how the implementation of SIM RS affects patient waiting time. This is in line with research at Jakarta hospital that the use of SIM RS is effective in reducing waiting time[19]. The use of SIM RS allows healthcare providers to access patient information instantly, enabling faster decision making and efficient treatment processes[10]. With SIM RS, information can be easily updated, shared with healthcare professionals, and accessed remotely, minimizing waiting times and improving overall efficiency[20]. Through the development of an integrated SIM RS Application, administrative processes become more efficient and structured, patient data can be accessed easily by medical and administrative staff, minimizing errors and information loss. The system also facilitates cooperation between departments and medical teams, allowing them to share information and collaborate on patient care[21]. The SIM RS can improve patient satisfaction by providing faster and easier access to health services [12]. The registration process is more efficient and reduces patient waiting time at the hospital, and patients can also make appointments to see a doctor, increasing convenience and flexibility for patients. In conclusion, the study on the impact of SIM RS GOS on waiting time showed significant benefits in the outpatient polyclinic of RSUD dr. Adnaan WD. By utilizing technology to streamline processes, increase data accessibility, and improve communication, healthcare providers can effectively reduce patient waiting times, thereby contributing to a more efficient and patient-centered service delivery system [11].

CONCLUSION

Based on the patient's socio-demographics, it was found that half were women who had not worked or were housewives, with a total of 26 respondents (50.0%). Almost half of the respondents had an age above 55 years and a high school education, as many as 19 respondents (36.5%).

And it was found that there the p value is 0.000 where the p value <0.05 so that it can be seen that there is a difference in the average waiting time before and after the application of the RS GOS SIM Application, which means that there is a positive effect on the application of the RS GOS SIM Application on waiting time.

CONFLICT OF INTEREST

The authors affirm that they have no potential conflicts of interest related to the research, authorship, and/or publication of this paper.

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