THE EFFECTIVENESS OF REPORTING MEDICAL RECORDS BEFORE AND AFTER USING SIMRS IN RSUD Dr. M.M DUNDA LIMBOTO

Intan S. Abdullah[1)], Rosnelawati Poiyo[2),] dan Toar Hatibie[3)]
[1)]Universitas Bina Mandiri Gorontalo
[2)]RSUD Dr. M.M Dunda Limboto
[3)] Capil Kota Gorontalo
E-mail: Intanabdullah2701@gmail.com

ABSTRACT

This study aims to determine the effectiveness of reporting medical record data before and after using the Hospital Management Information System at RSUD Dr. M.M Dunda Limboto. The effectiveness of data reporting is seen from the accuracy of the data and the accuracy of returning medical record files.

The research method used is quantitative research using a comparative approach. Collecting data in this study using a questionnaire, observation and documentation. The sampling technique used is a total sampling technique where the sample from the study amounted to 32 respondents.

The results of this study indicate that there is a significant difference between the Manual Hospital Management Information System and the SIMGOS 2 Hospital Management Information System application in reporting medical record data. The average value obtained from the results of the manual paired sample t-test got a mean value of 78.00 while the Hospital Management Information System application SIMGOS 2 got a mean value of 133.80 from these results it can be concluded that the Hospital Management Information System application SIMGOS 2 is more effective compared to manual Hospital Management Information Systems.

Keywords: Reporting, Medical Record Data and SIMRS

INTRODUCTION

The word effective comes from the English word effective, which means successful, something that is done well.

Effectiveness is a level of achievement of an organization in the short term (goals) and long term (means). The selection reflects the strategic constituency, interest in evaluating, and level of organizational life [6].

Medical record is a file containing records and documents including patient identity, examination results, treatment that has been given, as well as actions and other services that have been provided to patients. Notes are writings made by doctors or dentists regarding actions taken to patients in the context of health services. Medical records are a vital part of a hospital, considering its function as evidence in the law enforcement process, physician discipline, payment basis for health services and health statistical data [10].

In all hospitals, medical records are one of the most important parts in it, therefore medical records are the responsibility of several parties, including the doctors involved and also the medical record section, from the directors who are in charge of medical records. Each party has their respective obligations and duties

in completing medical records. Directors are required to be responsible for the implementation and procurement of information systems in hospitals and doctors are required to carry out their obligations in filling out medical record files and being able to maintain patient confidentiality, while the medical record section is responsible for storage and management [7].

The most important goals of health medical records consist of 5, namely:

1. Service management

   The completeness of the medical record file can be used to compile practice guidelines, analyze various diseases, and also to assess the quality of services that have been provided. Medical record files are the most important evidence that can justify the existence of service actions and providing treatment to patients. The consequence is through a clear identity of the patient's medical record.
2. Financing

   Financing accurate and detailed medical records record all health care services that have been received by patients. This information determines the amount of payment fees to be paid by the patient, either in cash or through insurance.
3. Patient care

   The services provided by health workers are recorded in the medical record file in order to assist in making decisions about therapeutic actions and as a determinant of patient diagnosis. In addition, medical records are also used as a communication tool among health workers who handle patients together and also become legal evidence in the eyes of the law. 4. Support services A detailed medical record can clearly explain the activities related to administering the action and can assess what happened then will confirm the information to different clinics [3].

Other benefits of medical records include aspects of values known as ALFREDS aspects of administration, legal, financial, research, education and documentation, which are explained as follows:

1. Administrative aspects

   The medical record file is said to have administrative value because the contents of the medical record are closely related to the service actions provided to the patient. Based on the existing authority, medical and paramedical personnel are given the responsibility to achieve health service goals.
2. Medical aspect

   Medical value in medical records, because the notes written in the medical record file will be used as a basis for compiling drug administration or actions that must be given to patients.
3. Legal aspects

   The medical record file contains problems regarding guarantees, legal certainty, in planning law enforcement efforts and providing evidence to uphold justice, this happens because medical record files have legal value.
4. Financial aspects

   Medical record files have monetary value, this is because the contents in medical records are closely related to data and information that can be used in calculating the costs of actions, treatments and treatments.
5. Research aspects.

   Medical record files have research value, this is because their contents involve data or information that can be used for the development of knowledge in the field of health and research.
6. Educational aspects

   The value of education in the medical record file is because the

contents in the file are closely related to data or information regarding the chronological development of medical service activities received by patients. The information obtained will be used as learning reference material in the health profession section.

7. Documentation aspect

   The value of the documentation in the medical record file, because the contents in the file are related to the memory source that must be documented and used as a report for health care facilities and as material for accountability [5].

Hospital hospital management information systems must be implemented in all hospitals. Hospital management information system is a communication technology information system that integrates and processes the entire flow of hospital service processes in the form of a coordination network, so that administrative procedures and reporting obtain precise and accurate administrative data.

The application of a hospital management information system is very important for a hospital in today's era. This is supported by the increasingly complex problems that exist in the patient's medical record data, as well as other administrative data related to the implementation of hospital services received by the patient. However, providing management information system services is not an easy thing to do, especially if it is associated with the high cost of procuring a management information system [12].

Implementation of a management information system requires careful planning, if done in a hurry without going through the planning stage, it is feared that it will cost more and risk the failure of the management information system to function [17].

The system can be defined as a unit consisting of two or more components or subsystems that interact to achieve a goal. A system is a network of procedures that are interconnected, gathered together to perform an activity or complete a specific goal. The system is also a collection of interrelated elements and work together to process the input (input) addressed to the system and process (process) the input to produce the desired output [9].

An information system is an integrated human/machine system to provide information to support operations, management and decision-making functions within an organization. This system uses computer hardware and software, procedures, decision management model guidelines and data to see the benefits. Information systems must be able to save time, save costs, avoid duplication of work and shorten the process [13].

Information is data that has been processed into a form that is meaningful to the recipient and useful in making current or future decisions. Information is seen as a resource as is land, labor and capital. Information is not free goods. It must be obtained, processed, stored, retrieved, manipulated and analyzed, distributed and so on [4].

information is data that has been classified or interpreted and processed for use in the decision-making process [16].

Management information system is an activity to provide information in a timely, accurate and appropriate manner to support the process of management functions and decision making in providing medical treatment in hospitals [13].

Hospital is a health service institution that carries out complete individual health services and provides outpatient, inpatient and emergency services. The hospital as one of the health facilities that provide health services to the community has a

very strategic role in accelerating the improvement of public health status [11].

The quality of hospital services is one of the important elements in health services. This is because the quality of service is one of the indicators used to measure the performance of the hospital. Therefore. The quality of service must receive serious attention from hospital management. One of the supports for the implementation of good service quality is the implementation of a Hospital Management Information System (SIMRS) that is reliable, effective and efficient and can always follow developments [17].

Hospitals are always under pressure to immediately improve medical services, reduce medical errors, provide timely access to information and at the same time must be able to monitor service activities, and control operational costs. In order to meet these demands, hospitals must have an integrated management information system that can share real-time, precise and accurate information. This management information system cannot run automatically if it is not supported by system software (software system) or enterprise system (enterprise software) that is already embedded in the hospital server [2].

Hospital Dr. M.M Dunda Limboto is the only Regional-owned hospital in Gorontalo Regency that has used the SIMGOS application hospital management information system since 2014 version 1 and continued with version 2 in 2019 until now. Before using the SIMGOS 2 application hospital management information system reporting medical record data at Dr. RSUD. M.M Dunda Limboto still uses the hospital management information system manually from the first time the hospital was built until 2012.

Preliminary study conducted on 23 to 28 October 2020, through interviews with the chief medical record section officer and server officer, that the hospital management information system was previously used in manual form where data inaccuracies and inaccuracy in returning medical record files often occur.

The inaccuracy of the data includes frequent writing errors in terms of patient identity and also sometimes the writing cannot be read clearly. For example, in the registration book in the inpatient room, the writing cannot be read clearly. Meanwhile, the inaccuracy of entering medical record files, based on the SOP that applies at RSUD Dr. M.M Dunda Limboto The return of medical record files must be within 1 X 24 hours. However, based on the data obtained, the inaccuracy of entering the medical record file occurs for days, for example, for example more than 7 days, the highest is found in the midwifery room because the number of patients who came out was 220 and those who entered the medical record room were only 129 patients. or 59%, and the lowest incorrect entry of medical record files for more than 7 days was in the eye room as many as 4 patients who went home and 4 who did not enter the medical record room for more than 7 days or 100%. This is why information, in the form of reports to the Ministry of Health, Provincial and District Health Offices, is often late.

RESEARCH METHODS

The approach and type of research used in this research is comparative quantitative.

Data collection techniques are a top priority in research, this is because the purpose of this study is to obtain data, both secondary data and primary data [18].

This study uses a questionnaire given to respondents who are asked to answer statements or questions that are in the list provided.

The answer to each instrument item using a Likert scale has a gradation from very positive to very negative. To measure the above variables used a Likert scale of five levels as follows.

Table 1. Likert scale rating

Evaluation	Score
Strongly agree	5
agree	4
Doubt	3
Less Agree	2
Very Disagree 1	1

Source: processed data

The sampling technique used in this study is the total sampling technique. Total sampling technique is a sampling technique when all population groups are used as samples. [19] The sample in this study were all employees of the SIMGOS 2 application operator, totaling 32 respondents.

The data analysis technique used in this research is statistical data analysis, namely by using the application of SPSS (Statistical product and service Solutions) version 16 and Ms Excel in 2010.

This study aims to compare the effectiveness of reporting medical record data before and after using the management information system at RSUD Dr. M.M Dunda Limboto.

1. Validity test

   Validity is a condition that describes the level of the instrument concerned, capable of measuring whatever is to be measured. Testing the validity of this questionnaire is more focused on the score alignment test between items and the total score of the item, where in its preparation, the benchmarks used are derived from existing indicators [21].
2. Reliability Test

   A reliable instrument is an instrument which, when used several times to measure the same object or subject, will still give the same data results [21].
3. Normality Test

   Normality test aims to determine whether a data, on each research variable to be analyzed forms a normal distribution or not [21].
4. Paired Sample T-Test T

   his test aims to determine whether there is a difference in the average of two samples or two groups that are paired or related. Paired Samples T-Test is a comparative hypothesis test or often referred to as a comparative test and also a paired sample T-Test [22].

RESEARCH RESULT

Validity test

Validity test is used to measure whether or not a questionnaire is valid. The test criteria are if rCount > rTable means valid, otherwise if rCount < rTable is invalid. The results of testing the validity of each variable can be seen as follows.

1. Test the Validity of the Manual SIMRS

   Data Accuracy Variables The number of statements used to measure the manual SIMRS data accuracy variable in this study were 5 statements with 32 respondents (n = 30). Based on the results of data processing carried out, it is found that in the first statement the rCount value is 0.633, the second statement gets an rCount value of 0.836, the third statement gets an rCount value of 804, in the fourth statement gets an rCount value of 0.627 and the fifth statement gets an rCount value of 0.839 . The rCount value of each statement is greater than the value of rTable (0.361) and each statement has a valid status
2. Test the Validity of the Manual SIMRS

   Timeliness Variables The number of statements used to measure the manual SIMRS timeliness variable in this study were 5 statements with 32 respondents (n = 30). Based on the results of data processing carried out, it is found in the first statement that the rCount value is 0.464, the second

statement gets an rCount value of 0.836, the third statement gets an rCount value of 804, in the fourth statement gets an rCount value of 0.627 and the fifth statement gets an rCount value of 0.839 . The value of rCount of each statement is greater than the value of rTable (0.361) and each statement has a valid status

3. Test the Validity of the SIMRS Data Accuracy Variable SIMGOS Application 2 The number of statements used to measure the SIMRS data accuracy variable SIMGOS 2 application in this study were 5 statements with 32 respondents (n = 30) Based on the results of data processing carried out, it is found that in the first statement the rCount value is 0.787, the second statement gets an rCount value of 0.502, the third statement gets an rCount value of 0.785, the fourth statement gets an rCount value of 0.787 and the fifth statement gets an rCount value of 0.840 . The rCount value of each statement is greater than the value of rTable (0.361) and each statement has a valid status.
4. Test the Validity of the SIMRS Timeliness Variable SIMGOS Application 2 The number of statements used to measure the SIMRS timeliness variable in the SIMGOS 2 application in this study were 5 statements with 32 respondents (n = 30) Based on the results of data processing carried out, the first statement obtained the rCount value of 0.765, the second statement obtained the rCount value of 0.742. The third statement gets an rCount value of 0.742, the fourth statement gets an rCount value of 0.517 and the fifth statement gets an rCount value of 0.874. The rCount value of each statement is greater than the value of rTable (0.361) and each statement has a valid status.

Reliability Test

Reliability testing is done by looking at Cronbah's alpha value which is said to meet reliability if Cronbac's alpha value is greater than 0.50 and vice versa [1].

The reliability test results for the research variables are presented in the following table:

1. Manual SIMRS Data Accuracy Variable

Table 2. Reliability Test Results

Variable	Coefficient Reliability	Reference Number	Information	Status
Manual data accu-racy	0,795	0,50	The Cronbach Alpha value is greaterthan the value of 0.50	Relia ble

Source: processed data

Based on table 2, the manual hospital management information system (SIMRS) data accuracy variable has a reliability coefficient value of 0.795 with a reference number of 0.50 where the Cronbah Alpha value is greater than the value of 0.50 which means reliable.

2. Manual SIMRS Punctuality Variable

Table 3. Reliability Test Results

Variable	Coefficient Reliability	Reference Number	Information	Status
Manual time-keeping	0,777	0,50	The Cronbach Alpha value is greater than the value of 0.50	Relia ble

Source: processed data

Based on table 3 the manual timekeeping variable has a reliability coefficient value of 0.777 with a reference number of 0.50 where the Cronbah Alpha value is greater than the value of 0.50 which means reliable

3. SIMRS Variable Accuracy SIMGOS Application 2

Table 4. Reliability Test Results

Variable	Coefficient Reliability	Reference Number	Information	Status

SIMGOS 2 app data accuracy	0,787	0,50	The Cronbach Alpha value is greater than the value of 0.50	Relia-ble

Source: processed data

Based on table 4, the data accuracy variable for the hospital management information system (SIMRS) SIMGOS 2 application has a reliability coefficient value of 0.787 with a reference number of 0.50 where the Cronbah Alpha value is greater than the value of 0.50 which means reliable

4. Variable SIMRS Timeliness SIMGOS 2 application

Table 5. Reliability Test Results

Variable	Coefficient Reliability	Reference Number	Information	Status
SIMRS time-keeping SIMGOS 2 app	0,779	0,50	The Cronbach Alpha value is greater than the value of 0.50	Relia ble

Source: processed data

Based on table 5. The variable timeliness of the hospital management information system (SIMGOS) SIMGOS 2 application has a reliability coefficient value of 0.779 with a reference number of 0.50 where the Cronbah Alpha value is greater than the value of 0.50 which means reliable.

Data Normality Test

The purpose of testing the normality test is to test whether the variable regression model has a normal distribution or not. In this study, the normality test was tested using the Kolmogorov-Smimmov test. when the asymp value. sig.b(2-tailed)>0.05mm it can be interpreted that the data is normally distributed and vice versa.[1] The results of the normality test are presented as follows

1. SIMRS Manual Normality Test

Table 6. Normality

		SIMRS Manual
N		10
Normal Parameters[a]	Mean	78.10
	Std. Deviation	6.402
Most Extreme Differences	Absolute	.122
	Positive	.097
	Negative	-122
kolmogorov smirnov z		.385
asymp. sig. (2-tailed)		.998

Source: processed data

Based on table 6. it is obtained that N = 10. The mean value is 778.10 Std value. deviation of 6,402. absolute value is 122, positive value is 097 and negative is -122. Kolmogorov Smirnov z value is 0.385 and asymp Sig (2 tailed) m is 0.99

2. SIMRS Normality Test SIMGOS 2 app

Table 7. Normality

		SIMRS aplikasi SIMGOS 2
N		10
Normal Parameters[a]	Mean	133.80
	Std. Deviation	2.658
Most Extreme Differences	Absolute	.174
	Positive	.114
	Negative	-.174
kolmogorov smirnov z		.551
asymp. sig. (2-tailed)		.922

Source: processed data

Based on table 7. obtained N = 10. The mean value of 133.80 Std value. Deviation is 2,658. The absolute value is 174, the positive value is 114 and the negative is -174. Kolmogorov Smirnovz value is m0.551 and Asimppsig (2 aided) is 0.922

Test Results Paired Samples T-Test

Paired Samples T-Test is a comparative hypothesis test or often referred to as a comparison test. Paired sample T-Test aims to determine whether there is a difference in the average of two samples or two groups that are paired or related.

The results of the paired sample T-Test in this study are presented as follows:

1. Test Results Paired Samples Statistics

Table 8. Test Results of Paired Samples Statistics

		Mean	N	Std. Devia-tion	Std. Eror Mean
Pair	Simrs manual	78.10	10	6.402	2.025

	Simgos App 2	133.80	10	2.658	.841

Source: processed data

Based on Figure 8. test paired samples statistics, the average value or mean of the Hospital Management Information System (SIMRS) manual is 78.10. N 10, std. Deviation 6402 and std. The mean error is 2.025, while the hospital management information system (SIMRS) application SIMGOS 2 has an average value or mean of 133.80, N 10 std. Deviation 658 and std. The mean error is 841.

2. Test Results Paired Samples correlations

Table 9. Paired Samples correlations. test results

		N	Correlation	sig
Pair 1	Simrs manual-Simgos App 2	10	.386	270

Source: processed data

Based on table 9. manual hospital management information system (SIMRS) and hospital management information system (SIMRS) SIMGOS 2 application has N equal to 10 with correlation value of 0.386 and sig of 270.

3. Paired Samples Test Results

Table 10. Paired Samples Test Results

		t	f	Sig.(2-tailed)
Pair 1	Simrs_manual_aplikasi Simgos 2	-29.816	9	.000

Source: processed data

the results of the manual paired sample test for the hospital management information system (SIMRS) and the hospital management information system (SIMRS) for the SIMGOS 2 application have a tcount value of -29,814, df 9 and a sig (2-tailed) value of 0.000)

DISCUSSION

The research was conducted at Dr. Hospital. M.M Dunda Limboto by involving several rooms that already run a hospital management information system (SIMRS) for the SIMGOS 2 application, namely poly, radiology, inpatient, BPJS, cashier, server and laboratory units

1. SIMRS Manual (data accuracy & timeliness)

Based on the results of the study in table 7, it was found that the average value or mean value of the manual SIMRS was 78.10. The average value was obtained from each respondent's answer to the manual hospital management information system question where the answer only focused on disagreeing answers for almost all of the questions. This is because the perception of respondents on manual SIMRS both on data accuracy and timeliness is not good because when applying manual SIMRS there are often errors in writing on patient data which causes delays when returning medical record files.

This study is in line with research on delays in returning medical record files that occurred at X Hospital, East Jakarta, where from the calculation results it is known that there are as many as 25%. inaccuracy in returning inpatient medical records in April 2018 [15]. However, the results obtained from previous studies focused more on discussing the inaccuracy of manual SIMRS while the results obtained from researchers discussed the use of hospital management information systems manually which caused data inaccuracies and inaccuracy in returning medical records that occurred in RSUD Dr. M.M Dunda Limboto.

This study is in line with research on the medical record recording system of inpatients at the Sito Husada Hospital, where from the results of this study it was found that there were still some incomplete medical records, especially for general patients and those in the VIP class, while in this

study there were no file completion occurs in almost all rooms while still using manual hospital management information systems [7].

2. SIMGOS 2 App (data accuracy & Timeliness)

Based on the results of the study in table 7, it was found that the average value or mean value of the hospital management information system carried out using the SIMGOS 2 application was 133.00. The average value was obtained from each respondent's answer to the SIMRS question for the SIMGOS 2 application, where the respondents' answers preferred to agree and strongly agree. This is because the respondent's perception of the application of the hospital management information system in the form of the SIMGOS 2 application is very good, both in terms of data accuracy and timeliness is very good, because the hospital management information system in the form of the SIMGOS 2 application is very helpful in the work of the operator itself. This research is in line with the explanation that manual data management has many weaknesses, besides taking a long time, its accuracy is also not acceptable, because the possibility of errors that will occur is very large. With the support of information technology that exists today, manual data management work can be replaced with an information system using a computer. Besides being faster and easier, data management also becomes more accurate [13].

CONCLUSION

Based on the results of this study, it can be concluded as follows:

1. The hospital management information system which is done manually is not effectively used in reporting medical records, this is evidenced by the results of the average or mean manual SIMRS only 78.10.
2. The hospital management information system which is carried out using the SIMGOS 2 application is very effectively used in reporting medical records, this is evidenced by the results of the average or mean SIMRS value of the SIMGOS 2 application of 133.00.

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