

The Influence of Nurse Compliance Factors and Support Facilities on the Implementation of Hospitals Management Information Systems at a General Hospital District Region Kediri

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ABSTRACT

Hospital Management Information System (SIMRS) is a system used to collect management data from a hospital. The aim of this research is to analyze the influence of nurse compliance factors and supporting facilities on the implementation of the Hospital Management Information System (SIMRS) at the Kediri Regency Regional General Hospital. This research uses a cross sectional study approach with quantitative methods. The population in this study was all 333 nurses at the Kediri Regency Hospital (RSKK). A sample of 100 respondents was taken using the Krejcie table with an error rate of 5%. Data analysis used Spearman rank and Ordinal regression analysis. The research results showed that almost the majority (55%) of respondents complied (>75%), the majority (59%) had adequate facilities and infrastructure, almost half (42%) of respondents implemented SIMRS poorly. Based on the Spearman Rank, it was found that there is a relationship between compliance factors and infrastructure and the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024 and based on the Ordinal Regression test, it can be seen that nurse compliance factors and infrastructure influence the implementation of SIMRS. So it can be said that nurse compliance is more influential than the completeness of infrastructure at the Kediri Regency Hospital (RSKK) in 2024.

Keywords: Compliance, infrastructure, SIMRS implementation

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BACKGROUND

Hospital Management Information System (SIMRS) is a system used to collect management data from a hospital. The aim of this research is to analyze the influence of nurse compliance factors and supporting facilities on the implementation of the Hospital Management Information System (SIMRS) at the Kediri Regency Regional General Hospital.

This research uses an approach *cross sectional study* with quantitative methods. The population in this study was all 333 nurses at the Kediri Regency Hospital (RSKK). A sample of 100 respondents was taken using the Krejcie table with an error rate of 5%. Data analysis used Spearman rank and Ordinal regression analysis.

The research results showed that almost the majority (55%) of respondents complied (>75%), most (59%) had adequate facilities and infrastructure, almost half (42%) of respondents implemented SIMRS poorly. Based on *Spearman Rank* It was found that there was a relationship between Compliance factors and infrastructure with the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024 and based on tests *Ordinal Regression* it can be known that Nurse compliance factors and infrastructure influence the implementation of SIMRS. So it can be said that nurse compliance is more influential than the completeness of infrastructure at the Kediri Regency Hospital (RSKK) in 2024.

METHODS

This research uses an approach *cross sectional study* which explains the dynamics of the correlation between the independent variable and the dependent variable at the same time.

In this study it consists of 2 variables, namely: Independent Variable (X) X1 Nurse Compliance and X2 : Supporting Facilities. The dependent variable (Y) is SIMRS Implementation.

The population in this study were all 333 nurses at the Kediri Regency Hospital (RSKK). The sample in this study was 100 nurses at the Kediri Regency Hospital (RSKK).

In this study, sampling used a probability sampling technique, proportionate random sampling type. Meanwhile, to determine the number of samples in this study, a Krejcie table was used with an error rate of 5%.

In this research, the questionnaire was taken based on other people's questionnaires which had been tested for validity and reliability.

This research was carried out at the Kediri Regency Hospital (RSKK). This research is planned to be carried out in September 2024 until completion data analysis used Spearman rank and ordinal regression analysis.

RESULTS

Characteristics of Respondents Based on Age

Characteristics of respondents based on age at the Kediri Regency Hospital (RSKK) in 2024 can be seen in the following table:

Table 5.1. Frequency distribution of respondent characteristics according to age at Kediri Regency Hospital (RSKK) in 2024.

No	Age	Σ	Percentage
1	< 20 years	0	0
2	20-35 years	82	82
3	> 35 years	18	18
Total		100	100

Source: Primary research data 2024

Based on table 5.1, it can be interpreted that almost all respondents (82%) are aged between 20-35 years, namely 82 people

Characteristics of Respondents Based on Gender

Characteristics of respondents based on gender at the Kediri Regency Hospital (RSKK) in 2024 can be seen in the following table:

Table 1. Frequency distribution of respondent characteristics according to gender at Kediri Regency Hospital (RSKK) in 2024

No	Gender	Σ	Percentage
1	Man	47	47
2	Woman	53	53
Total		100	100

Source: Primary research data 2024

Based on table 1, it can be interpreted that the majority of respondents (53%) are women, namely 53 people

Characteristics of Respondents Based on Education Level

Characteristics of respondents based on education level at Kediri District Hospital (RSKK) in 2024 can be seen in the following table:

Table 2. Frequency distribution of respondent characteristics according to education level at Kediri Regency Hospital (RSKK) in 2024

No	Level of education	Σ	Percentage
1	D3-D4	65	65
2	S1	33	33
3	S2	2	2
Total		100	100

Source: Primary research data 2024

Based on table 2, it can be interpreted that half of the respondents (65%) are Diploma III graduates, namely 65 people

Characteristics of Respondents Based on Years of Work

Characteristics of respondents based on work period at Kediri Regency Hospital (RSKK) in 2024 can be seen in the following table:

Table 3. Frequency distribution of respondent characteristics according to length of service at Kediri Regency Hospital (RSKK) in 2024

No	Working Time	Σ	Percentage
1	<1 year	8	8
2	1-5 years	46	46
3	6-10 years	22	22
4	11-15 years	20	20
5	15-20 years	4	4
6	>20 years	0	0
Total		100	100

Source: Primary research data 2024

Based on table 3, it can be interpreted that almost half of the respondents (46%) have worked for 1-5 years, namely 46 people

Compliance Factors at Kediri Regency Hospital (RSKK) in 2024

Compliance factors at the Kediri District Hospital (RSKK) in 2024 are as follows:

Table 4. Compliance Factors at Kediri Regency Hospital (RSKK) in 2024

No	Compliance	Frequency	Percentage (%)
1	Compliant (>75%)	55	55
2	No Pauh (<74%)	45	45
Total		100	100

Source: Primary data from 2024 research

Based on table 4 above, based on Compliance Factors, it can be interpreted that almost the majority (55%) of respondents are compliant (>75%), namely 55 people. Facilities and Infrastructure Factors at Kediri Regency Hospital (RSKK) in 2024
 Facilities and Infrastructure factors at the Kediri Regency Hospital (RSKK) in 2024 are as follows:

Table 5. Facilities and Infrastructure Factors at Kediri Regency Hospital (RSKK) in 2024

No	Facilities and infrastructure	Frequency	Percentage (%)
1	Adequate (>75%)	59	59
2	Inadequate (<74%)	41	41
	Total	100	100

Source: Primary data from 2024 research

Based on table 5 above, based on the Facilities and Infrastructure Factor, the data shows that the majority (59%) of the Facilities and Infrastructure are adequate, namely 59 people.

Implementation of SIMRS at Kediri District Hospital (RSKK) in 2024

The implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024 is as follows:

Table 6. Implementation of SIMRS at Kediri Regency Hospital (RSKK) in 2024

No	Application of SIMRS	Frequency	Percentage (%)
1	Bad if the score is 4-10	42	42
2	Good if the score is 11-15	27	27
3	Very good if the score is 16-20	31	31
	Total	100	100

Source: Primary data from 2024 research

Based on table 6 above, based on SIMRS implementation, it can be interpreted that almost half (42%) of respondents implemented SIMRS poorly, namely 42 people.

Cross tabulation of Compliance Factors With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024

Cross tabulation of Compliance Factors the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024 is as follows:

Table 7. Results of Cross Tabulation of Compliance Factors With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024

Compliance	Application of SIMRS						Total	
	Bad		Good		Very good		√	%
	N	%	N	%	√	%		
Comply	3	3	25	25	27	27	55	55
Not obeying	39	39	2	2	4	4	45	45
Amount	42	43	27	27	31	31	100	100

Source: Primary Data 2024

Based on table 7, it can be seen that almost half of the respondents (39%) who did not comply meant that the implementation of SIMRS was poor, as many as 39 respondents. Based on *Spearman Rank* value is obtained *significant (p value) = 0, 000 (< α = 0.05)* so it can be concluded that H0 is rejected and H1 is accepted, which means there is a relationship between Compliance factors with the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024. the r value (Contingency Coefficient) is 0.730, which means the relationship between Compliance factors with the implementation of SIMRS in the strong

category, with a positive direction, which means that the higher the compliance, the better the implementation of SIMRS.

Cross tabulation of Facilities and Infrastructure Factors With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024.

Cross tabulation of Facilities and Infrastructure Factors The implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024 is as follows:

Table 8. Results of Cross Tabulation of Facilities and Infrastructure Factors With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024

Facilities and infrastructure	Application of SIMRS						Total	
	Bad		Good		Very good		√	%
	N	%	N	%	√	%		
Adequate	4	4	26	26	29	29	59	59
Inadequate	38	38	1	1	2	2	41	41
Amount	42	43	27	27	31	31	100	100

Source: Primary Data 2024

Based on table 8, it can be seen that almost half of the respondents (38%) who have incomplete infrastructure have poor implementation of SIMRS with 389 respondents. Based on *Spearman Rank* value is obtained *significant (p value) = 0, 000 (< $\alpha = 0.05$)* so it can be concluded that H_0 is rejected and H_1 is accepted, which means there is a relationship between Compliance factors with the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024. the *r* value (Contingency Coefficient) is 0.773, which means the relationship between Facilities and Infrastructure with the implementation of SIMRS in the strong category, with a positive direction, which means that the more complete the facilities and infrastructure, the better the implementation of SIMRS.

Analysis of nurse compliance factors and facilities and infrastructure factors With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024.

Analysis of nurse compliance factors and facilities and infrastructure factors the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024 is as follows:

Table 9. Ordinal Regression Test Results

Variable	N	Forest	P value	a
Nurse Compliance	100	2.866	0.090	0,05
Sarana Prasarana	100	2.748	0.097	0,05

Source: Primary Data 2023

Based on table 9 with test *Ordinal Regression* it can be known that In the Parameter Estimate values above, pay attention to the Wald value and significance value. The nurse compliance variable is 2,866 with sig. 0.090 (< 0.05) and infrastructure of 2,748 with sig. 0.097 (< 0.05). This shows that the factors of nurse compliance and infrastructure influence the implementation of SIMRS. So it can be said that nurse compliance is more influential than the completeness of infrastructure at the Kediri Regency Hospital (RSKK) in 2024.

DISCUSSION

Compliance Factors With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024

Compliance factors at the Kediri Regency Hospital (RSKK) in 2024 can be interpreted as meaning that almost the majority (55%) of respondents are compliant (>75%), namely 55 people.

Compliance comes from the word obedient. According to the KBBI (Big Indonesian Dictionary), obedient means liking to obey orders, obeying orders or rules and being disciplined. Obedience means being obedient, obedient, submissive, obedient to the teachings and rules of Nanda Purwanti, (2016). Compliance is an attitude or obedience to fulfill the recommendations of health workers without being forced to take action Fandinata and Ernawati, (2020). So compliance can refer to a situation when an individual's behavior is commensurate with the recommended action or advice proposed by a health practitioner or information obtained from an information source. (Permana, et al, 2019).

Compliance Factor Relationship With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024, it can be seen that almost half of the respondents (39%) were not compliant, the implementation of SIMRS was poor, as many as 39 respondents. Based on *Spearman Rank* value is obtained *significant (p value) = 0,000 ($\alpha = 0.05$)* so it can be concluded that H_0 is rejected and H_1 is accepted, which means there is a relationship between Compliance factors with the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024. the r value (Contingency Coefficient) is 0.730, which means the relationship between Compliance factors with the implementation of SIMRS in the strong category, with a positive direction, which means that the higher the compliance, the better the implementation of SIMRS.

Factors Supporting facilities With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024

For the Facilities and Infrastructure factor at the Kediri Regency Hospital (RSKK) in 2024, data was obtained for the majority (59%) The facilities and infrastructure were adequate, namely 59 people.

One example of the software used in SIMRS is *Complete Medical Software Management* or abbreviated as CMSM is hospital software with various complete modules, which can work individually or fully integrated. Developed with Java Desktop programming and a MySQL Server database, making Hospital Software - CMSM a program that can be relied on 24 Hours Non-Stop, we provide a program UpTime guarantee of 99.95% for 1 year or a total DownTime for 1 year of only 10 minutes. The CMSM application has features *XEngine*, is a feature where every transaction is a write (*insert, delete, update*) will be recorded in the Database Log: user name, PC IP used, date, transaction time and program version used, so that hospitals can carry out IT audits easily.

CMSM also has an ASFS feature (Auto Switching Failure Server), this feature can move or redirect to the IP address of the backup server if the main server is having problems. To be able to use this feature you need 2 PC Servers with the same specifications. The CMSM application also provides mobile support for Android smartphones, there are 3 types of applications provided, namely applications aimed at Management, Doctors or Patients. Each application has a different user interface and uses according to its purpose. The following is an example of a Dashboard application image intended for management. Apart from that, the application also supports bridging with BPJS Health and can be integrated with laboratory tools such as Sysmex, Urit, and also has Queue Display features, SMS Gateway, and Inpatient Billing Information. For more complete information, please link to the

following Integration System.

Cross tabulation of Supporting Means Factors With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024, it can be seen that almost half of the respondents (38%) who have incomplete infrastructure have poor implementation of SIMRS with 389 respondents. Based on *Spearman Rank* value is obtained *significant (p value) = 0,000* ($< \alpha = 0.05$) so it can be concluded that H_0 is rejected and H_1 is accepted, which means there is a relationship between Compliance factors with the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024. the *r* value (Contingency Coefficient) is 0.773, which means the relationship between Facilities and Infrastructure with the implementation of SIMRS in the strong category, with a positive direction, which means that the more complete the facilities and infrastructure, the better the implementation of SIMRS.

Analysis of nurse compliance factors and facilities and infrastructure factors With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024

Analysis of nurse compliance factors and facilities and infrastructure factors With the implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024 with tests *Ordinal Regression* it can be known that In the Parameter Estimate values above, pay attention to the Wald value and significance value. The nurse compliance variable is 2,866 with sig. 0.090 (< 0.05) and infrastructure of 2,748 with sig. 0.097 (< 0.05). This shows that the factors of nurse compliance and infrastructure influence the implementation of SIMRS. So it can be said that nurse compliance is more influential than the completeness of infrastructure at the Kediri Regency Hospital (RSKK) in 2024.

The implementation of SIMRS at the Kediri Regency Hospital (RSKK) in 2024 can be interpreted as meaning that almost half (42%) of respondents implemented SIMRS poorly, namely 42 people.

Human resources (HR) are a very important factor in a company or government agency. Therefore, human resources must be managed well to increase performance effectiveness and efficiency. Based on the definition above, HR management is the overall determination and implementation of various activities and programs aimed at obtaining workforce, development and maintenance in an effort to increase support for increasing organizational effectiveness in an ethical and socially accountable manner, meaning that all activities are carried out without conflict with the norms. prevailing norms in society (Priyono, 2017).

The role of management is very supportive of the running of SIMRS, management involvement in SIMRS is the director, deputy director of general administration and finance, planning and development section, sub-section of medical records monitoring and evaluation and head of SIMRS installation, while the technicians involved in running SIMRS are planning staff and strategy, operational staff, network and infrastructure staff along with all SIMRS operators on duty (Efikal, 2018).

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