

Implementation Analysis Of Clinical Pathway At Royal Prima Hospital

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Abstract.

Clinical pathways are an important part of documents and tools in realizing good clinical governance in hospitals. In Indonesia, this document is also one of the requirements that must be met in the KARS version of the Hospital Accreditation Standard. However, the process of implementing this Clinical Pathway itself also has various problems. Things that might hinder the implementation of this clinical pathway could come from the staff and hospital members themselves because they have not adapted to this Clinical Pathway. This study aims to analyze the implementation of the Clinical Pathway at the Royal Prima Hospital in Medan. This study uses a quantitative design with a cross sectional approach. The research sample was all doctors, nurses, nutritionists, pharmacists at the Royal Prima Hospital Medan who filled the Clinical Pathway as many as 83 people. The results of the Fisher's Exact test showed that there was a significant effect between regulation ($p=0.000$), compliance ($p=0.004$), supporting factors ($p=0.025$), and inhibiting factors ($p=0.002$). By using the t-test at a significance level of 0.05, the results obtained that regulation is the variable that has the main influence on the implementation of the Clinical Pathway at Royal Prima Hospital Medan (Sig.0.001). Suggestions to hospitals are expected to strengthen policies regarding the implementation of Clinical Pathway to improve health services in hospitals. Caregivers are expected to maintain compliance with the implementation of the Clinical Pathway to improve health services in hospitals.

Keywords: Regulation, Compliance, Supporting Factors, Inhibiting Factors, Clinical Pathway Implementation

I. INTRODUCTION

Clinical Pathway is a guideline or method used in carrying out clinical actions in hospitals based on local health care facilities. There are several other languages used for this Clinical Pathway, namely the Critical Care Pathway, Integrated Care Pathway, Coordinated Care Pathway or Anticipated Recovery Pathway. Designed by integrating general clinical guidelines into local protocols adapted to local health care facilities. The Clinical Pathway has an important function in health services because of the benefits of clinical pathways besides helping to improve the quality of standard services based on evidence-based medical studies, what is expected from this clinical pathway is cost effectiveness [1]. The implementation of clinical pathways in Indonesia was re-introduced since accreditation was required for hospitals based on the 2012 version of the KARS (Komite Akreditasi Rumah Sakit) accreditation standard as part of efforts to create good clinical governance. To become a means of improving the quality of hospital services, improving patient safety and increasing protection for patients, the community and hospital resources [2]. The preparation of the Clinical Pathway and the calculation of the cost of cases for cases that often occur are very necessary for quality control and hospital costs considering Akreditasi Internasional Rumah Sakit [3] The application of the Clinical Pathway to stroke services has been proven to improve the quality of the service process even though the impact has no effect on mortality outcomes. However, the process of implementing and implementing this Clinical Pathway itself also has various problems.

Things that might hinder the implementation of this clinical pathway could come from the staff and hospital members themselves because they have not adapted to this Clinical Pathway themselves. The results of Khairatunnisa, show that of the four clinical pathways that have been implemented, three clinical pathways that have not been implemented according to standards, there is professional disobedience of the

care givers [4]. Clinical pathway Non-complicated Inguinal Hernia Non-adherence occurred in the surgical wound monitoring variable (25%) and the patient's length of stay for 3 days (45%). Neonatal Infection on the variable of antibiotic administration and Non-Hemorrhagic Stroke on the variables of investigation and treatment. Another study conducted by Rahman in 2019, stated that the doctor's non-compliance in filling out the clinical pathway form was caused by the presence of a disease or complication of complications in the SC procedure, so it cannot be equated with cases without other complications. Meanwhile, according to interviews with hospital management, with the current INA-CBGs coding, the benefits obtained by hospitals are considered very small, especially if there is a mismatch in costs due to non-compliance. Based on the description of the background of the problem above, the formulation of the problem in this study is how is the Implementation of the Clinical Pathway Sakit Royal Prima Hospital. The research concept framework is a research framework taken from the research theoretical framework. In this study, the dependent variable is the implementation of the clinical pathway in implementing health services. The independent variable is the setting of the Clinical Pathway implementation, PPA compliance, supporting factors and inhibiting factors determining the quality of health services in hospitals in the Clinical Pathway implementation.

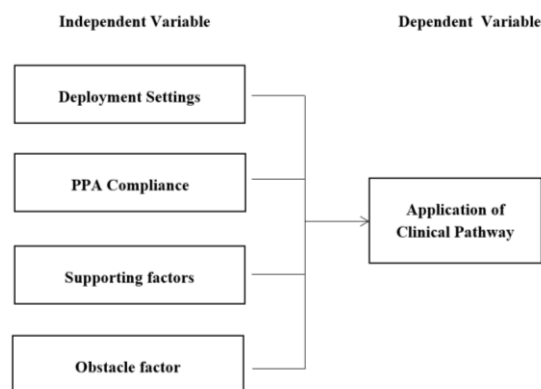


Fig 1. Research Concept Framework

II. METHODS

This study uses a quantitative design with a cross sectional approach, where the independent and dependent variables are collected in the same period and the impact is measured according to the circumstances at the time of the study. The activities carried out include data collection and measurement of the dependent and independent variables [5]. This research took place at the Royal Prima Hospital Medan. The time of the research was carried out from March 2022 until its completion. The population is a collection of all subjects in the study [6]. The population in this study were all doctors, nurses, nutritionists, pharmacists at the Royal Prima Hospital Medan who filled the Clinical Pathway, which amounted to 499 people. To determine the number of samples from members of the population in this study, the Slovin formula was used. The sampling technique used in this research is purposive sampling. The number of samples in the study were 83 PPA who filled out the Clinical Pathway at the Royal Prima Hospital Medan.

The validity and reliability test of the questionnaire in this study was carried out at the Putri Hijau Hospital Medan. Tests for the validity and reliability of the questionnaire were conducted on 20 respondents on the grounds that the hospital had the same respondent characteristics as the sample at the Royal Prima Hospital in Medan. The r-table value for a sample of 20 people is 0.444. Measurement of reliability using the Cronbach's Alpha method, which is to analyze the reliability of the measuring instrument from one measurement. A construct or variable is said to be reliable if it gives Cronbach's Alpha value greater than or equal to 0.60 while an instrument is declared unreliable if the Cronbach's Alpha value is less than or equal to 0.60. Univariate analysis aims to explain the frequency distribution of each variable, namely Regulation, PPA Compliance, Supporting Factors and Inhibiting Factors [7]. Bivariate analysis in this study used the Fisher's Exact test at a 95% confidence level, namely to analyze the relationship between the independent variables (ie Regulation, PPA Compliance, Supporting Factors and Inhibiting Factors) to the dependent variable, namely Clinical Pathway Application. p value < 0.05 [8]. In this multivariate analysis, the ANOVA. statistical test will be used.

III. RESULT AND DISCUSSION

Univariate Analysis

Regulation of Clinical Pathway Implementation at Royal Prima Hospital Medan

Table 1. Frequency Distribution of Clinical Pathway Implementation Regulations at Royal Prima Hospital Medan

Implementation Settings	f	%
Good	55	66,3%
Bad	28	33,7%
Total	83	100,0%

Based on the research data, it was found that the majority of regulations implementing the Clinical Pathway at the Royal Prima Hospital Medan were in the good category, namely 55 people (66.3%), and the minority of the regulations implementing the Clinical Pathway at the Royal Prima Hospital Medan were in the bad category, namely 28 people (33.7%).

Compliance of Caregivers Implementation of Clinical Pathway at Royal Prima Hospital Medan

Table 2. Frequency Distribution of Caregiver Compliance Implementation of Clinical Pathway at Royal Prima Hospital Medan

Compliance	f	%
Good	63	75,9%
Bad	20	24,1%
Total	83	100,0%

Based on the research data, it was found that the majority of Clinical Pathway implementations at the the Royal Prima Hospital Medan were in the good category, namely 63 people (75.9%), and the minority was in the bad category, as many as 20 people (24.1%).

Supporting Factors for Clinical Pathway Implementation at Royal Prima Hospital Medan

Table 3. Frequency Distribution of Supporting Factors for Clinical Pathway Implementation at Royal Prima Hospital Medan

Supporting Factors	f	%
Good	69	83,1%
Bad	14	16,9%
Total	83	100,0%

Based on the research data, the results showed that the majority of factors supporting the implementation of the Clinical Pathway at the the Royal Prima Hospital Medan were in the good category, namely 69 people (83.1%), and the minority supporting factors for the implementation of the Clinical Pathway were in the bad category, namely 14 people (16.9%).

Inhibiting Factors of Clinical Pathway Implementation at the Royal Prima Hospital Medan

Table 3. Frequency Distribution of Factors Inhibiting Clinical Pathway Implementation at the Royal Prima Hospital Medan

Inhibiting Factors	f	%
Big	19	22,9%
Small	64	77,1%
Jumlah	83	100,0%

Based on the research data, it was found that the majority of the inhibiting factors for the implementation of the Clinical Pathway at the the Royal Prima Hospital Medan Medan were the small category, namely 64 people (77.1%), and the minority of the inhibiting factors for the implementation of the Clinical Pathway was the large category as many as 19 people (22.9%).

Implementation of Clinical Pathway at the Royal Prima Hospital Medan**Table 4.** Frequency Distribution of Clinical Pathway Implementation at the Royal Prima Hospital Medan

Implementation	f	%
Good	52	62,7%
Bad	31	37,3%
Jumlah	83	100,0%

Based on the research data, the results showed that the majority of Clinical Pathway implementations at the Royal Prima Hospital Medan were in the good category, namely 52 people (62.7%), and the minority implementation of the Clinical Pathway was in the bad category, namely 31 people (37.3%).

Bivariate Analysis**The Effect of Regulations on the Implementation of the Clinical Pathway at the Royal Prima Hospital Medan****Table 5.** Influence of Regulations on the Implementation of Clinical Pathway at Royal Prima Hospital Medan

Regulation	Implementation Clinical Pathway				Total	P value
	Good		Bad			
	n	%	N	%	%	
Good	44	53,1	11	13,2	66,3	0.000
Bad	8	9,6	20	24,1	33,7	
Total	52	62,7	31	37,3	100,0	

Based on cross-tabulation data on 83 respondents, it was found that the majority of regulations in the good category with the implementation of the Clinical Pathway were also in the good category as many as 44 people (53.1%), and the minority implementing the Clinical Pathway in the bad category, namely 11 people (13.2%). The majority of regulations in the bad category with poor implementation of the Clinical Pathway are 20 people (24.1%), and the minority implementing the Clinical Pathway in the good category are 8 people (9.6%). Based on the results of the Fisher's Exact test, p value = 0.000 ($p < 0.05$), then there is a significant effect between regulations and the implementation of the Clinical Pathway at Royal Hospital Prima Medan.

Effect of Caregiver Compliance on Clinical Pathway Implementation at Royal Prima Hospital Medan**Table 6.** The Influence of Caregiver Compliance on Clinical Pathway Implementation at Royal Prima Hospital Medan

Compliance	Implementation Clinical Pathway				Total	P value
	Good		Bad			
	n	%	n	%	N	%
Good	45	54,2	18	21,7	63	0.004
Bad	7	8,5	13	15,6	20	
Total	52	62,7	31	37,3	83	

Based on cross-tabulation data on 83 respondents, it was found that the majority of adherence in the good category with the implementation of the Clinical Pathway were also in the good category as many as 45 people (54.2%), and the minority with the implementation of the Clinical Pathway in the bad category, namely 7 people (8.5%). The majority of adherence in the poor category with poor implementation of the Clinical Pathway were 13 people (15.6%), and the minority who implemented the Clinical Pathway in the good category were 7 people (8.5%). Based on the results of the Fisher's Exact test, p value = 0.004 ($p < 0.05$), then there is a significant effect between compliance with the implementation of the Clinical Pathway at Royal Prima Hospital Medan.

Influence of Supporting Factors on Clinical Pathway Implementation at Rumah Sakit Royal Prima Medan

Table 7. Influence of Supporting Factors on Clinical Pathway Implementation at Royal Prima Hospital Medan

Supporting Factors	Implementation Clinical Pathway				Total		P value
	Good		Bad		N	%	
	n	%	n	%			
Good	47	56,6	22	26,5	69	83,1	0.025
Bad	5	6,1	9	10,8	14	16,9	
Total	52	62,7	31	37,3	83	100,0	

Based on cross-tabulation data on 83 respondents, the results showed that the majority of the supporting factors in the good category with the implementation of the Clinical Pathway were also in the good category as many as 47 people (56.6%), and the minority with the implementation of the Clinical Pathway in the bad category, namely 22 people (26.5%).

The majority of the supporting factors in the bad category with poor implementation of the Clinical Pathway were 9 people (10.8%), and the minority who implemented the Clinical Pathway in the good category were 5 people (6.1%). Based on the results of the Fisher's Exact test, p value = 0.025 (p < 0.05), then there is a significant influence between the supporting factors and the implementation of the Clinical Pathway at the Royal Prima Hospital Medan.

Influence of Inhibiting Factors on Clinical Pathway Implementation at Royal Prima Hospital Medan

Table 8. Influence of Inhibiting Factors on Clinical Pathway Implementation at Royal Prima Hospital Medan

Inhibiting Factors	Implementation Clinical Pathway				Total		P value
	Good		Bad		N	%	
	n	%	n	%			
Big	6	7,3	13	15,6	19	22,9	0.002
Small	46	55,4	18	21,7	64	77,1	
Total	52	62,7	31	37,3	83	100,0	

Based on cross-tabulation data on 83 respondents, it was found that the majority of the inhibiting factors in the large category of implementing the Clinical Pathway were also in the bad category as many as 13 people (15.6%), and the minority implementing the Clinical Pathway in the good category, namely 6 people (7.3%). The majority of the inhibiting factors in the small category were 46 people (55.4%), and the minority who implemented the Clinical Pathway were in the bad category, namely 18 people (21.7%). Based on the results of the Fisher's Exact test, p value = 0.002 (p < 0.05), then there is a significant influence between the inhibiting factors and the implementation of the Clinical Pathway at Royal Prima Hospital Medan.

Effect of Regulation, Compliance, Supporting Factors and Inhibiting Factors on Clinical Pathway Implementation at Royal Prima Hospital Medan

a. Normality test

Table 9. Normality Test of the Effect of Regulation, Compliance, Supporting Factors and Inhibiting Factors on Clinical Pathway Implementation at Royal Prima Hospital Medan

Table 9. One-Sample Kolmogorov-Smirnov Test

			Unstandardize d Residual
N			83
Normal Parameters ^{a,b}	Mean		,0000000
	Std. Deviation		,39497051
Most Differences	Extreme	Absolute	,255
		Positive	,255
		Negative	-,117

Kolmogorov-Smirnov Z	,610
Asymp. Sig. (2-tailed)	,556

a. Test distribution is Normal.

Based on the results of the normality test in the table above, it is known that the implementation of the Clinical Pathway has a significance value of > 0.05 , which is 0.556. So, it can be concluded that the data is normally distributed.

b. ANOVA test

In this study, the ANOVA test was used to determine the effect of regulation, compliance, supporting factors and inhibiting factors on the implementation of the clinical pathway at the Royal Prima Hospital Medan.

Table 10. Normality Test of the Effect of Regulation, Compliance, Supporting Factors and Inhibiting Factors on Clinical Pathway Implementation at Royal Prima Hospital Medan

ANOVA					
Model	SS	Df	MS	F hitung	sig.
Regression	6,630	4	1,657	10,106	0,000
Residual	12,792	78	0,164		
Total	19,422	82			

Coefficient		
Model	T	sig.
Regulation	3,577	,001
Compliance	1,621	,109
Support	1,891	,062
Inhibiting	1,816	,073

Based on the test results in the table above, using a t-test at a significance level of 0.05, the result is that regulation is the variable that has the main influence on the implementation of the Clinical Pathway at Royal Prima Hospital Medan (Sig.0.001).

Discussion

Influence of Regulations on Clinical Pathway Implementation at Royal Prima Hospital Medan

The results of the study using cross tabulation on 83 respondents showed that the majority of the regulations were in good category, the implementation of the Clinical Pathway was also in good category as many as 44 people (53.1%). The majority of regulations are in the bad category, the implementation of the Clinical Pathway is also in the bad category, namely 20 people (24.1%). Implementation of a good clinical pathway will be able to improve patient safety and the effectiveness of medical services. In addition, a good clinical pathway is also able to improve the quality of services provided, improve work efficiency, medical safety, and reduce hospital costs [9]. The results of the Fisher's Exact test obtained a value of $p = 0.000$ ($p < 0.05$), so there is a significant effect between regulations and the implementation of the Clinical Pathway at Rumah Sakit Royal Prima Medan. According to Chawla et al [10], one of the most important things to consider in the development of a clinical pathway is transparency to patients.

This shows that patients have a role in participating in developing clinical pathways. In addition, transparency with patients will help reduce disputes in the future. In the clinical pathway development process that is assessed at ICPAT, it is not only the part that makes the clinical pathway, the patients who receive the treatment also have to be included in the clinical pathway development. It is proven in the content and quality sections that each fall into the less and moderate categories because there is still no patient involvement in reviewing clinical pathways [10]. The results of this study are in line with the results of qualitative research conducted by Sari and Sundari [11], who concluded that the role of good management or

organization greatly influences the implementation of clinical pathways. The results of this study are also in line with the results of qualitative research conducted by Nugroho [12], which states that one of the most important structural aspects of any organization is the existence of standard operating procedures or SOP. SOP is a guideline for every implementer in acting.

Effect of Caregiver Compliance on Clinical Pathway Implementation at Royal Prima Hospital Medan

The results of the study using cross tabulation on 83 respondents showed that the majority of compliance was in the good category, the implementation of the Clinical Pathway was also in the good category as many as 45 people (54.2%). The majority of adherence was in the bad category, the implementation of the Clinical Pathway was in the bad category as many as 13 people (15.6%). Clinical pathways are an important part of documents and tools in realizing good clinical governance in hospitals. The selection of clinical pathways is aimed at diseases that are the main causes of death, high risk, and high costs. The application of this clinical pathway really requires hospital support in the form of policies. Without policy support from management, clinical pathways cannot be implemented because policies in a hospital are the legal basis for implementing a program [13]. The benefits of implementing clinical pathways are that it can reduce the average length of hospitalization, reduce hospitalization expenses, increase patient satisfaction, and improve service quality in management.

In fact, in the implementation of clinical pathways, it is related to filling out the completeness in medical records. For example, filling out other sheets in the integrated patient progress record sometimes does not exist or is not in accordance with the existing clinical pathway even though it is related to compliance with filling out files in the medical record. By means of indications and planning for the development of related procedures, clinical pathways help doctors, nurses, and therapists as a tool for socializing and evaluating the treatment process [14]. Fisher's Exact test results obtained p value = 0.004 ($p < 0.05$), then there is a significant effect between compliance with the implementation of the Clinical Pathway at Royal Prima Hospital Medan. The results of this study are in line with the results of Paat's qualitative research, which concludes that the obstacles to the use of clinical pathways are the lack of compliance of the doctor in charge of the patient to the clinical pathway, lack of concentration in filling out the formation of clinical pathways, and difficulties in using clinical pathways. The results of this study are also in line with the research of Sari and Sundari [11], who concluded that one of the success factors for implementing clinical pathways is the limited time and awareness of filling in CP, there is therapy that is not suitable for CP and the application of evaluation results is not optimal.

Influence of Supporting Factors on Clinical Pathway Implementation at Royal Prima Hospital Medan

The results of the study using cross tabulation on 83 respondents showed that the majority of the supporting factors were in the good category, the implementation of the Clinical Pathway was also in the good category as many as 47 people (56.6%). The majority of supporters in the bad category, the implementation of the Clinical Pathway in the poor category was 9 people (10.8%). Clinical pathway is a guideline used to carry out evidence-based clinical actions in health care facilities. Clinical Pathway is a plan that provides in detail each important stage of health care, for the majority of patients with a particular clinical problem (diagnosis or procedure), along with the expected outcome. Clinical Pathway provides a way to develop and implement existing clinical guidelines into local protocols [15]. The communication factor is considered a very important factor, because it bridges between the community and the government in implementing policies so that it is known whether the implementation of policies is running effectively and efficiently without anyone being harmed.

Intensive education and communication are needed to ensure that clinical pathways can run well [16]. The results of the Fisher's Exact test obtained $p = 0.025$ ($p < 0.05$), so there is a significant influence between the supporting factors and the implementation of the Clinical Pathway at the Rumah Sakit Royal Prima Medan. The results of this study are in line with the results of qualitative research by Astuti et.al [17], namely a description of the implementation of clinical pathways from a managerial perspective at Lasinrang Hospital, Pinrang Regency, which concludes that maximizing communication, conducting training, forming

commitments, and conducting ongoing monitoring and evaluation are efforts which can increase the success of clinical pathway implementation. This research is also in line with Sari and Sundari's research [11], entitled evaluation of the implementation of the hypertension crisis clinical pathway in the inpatient installation of PKU Muhammadiyah Bantul Hospital, concluding that socialization, training, routine evaluation and improvement of facilitators affect the success of clinical pathway implementation.

Influence of Inhibiting Factors on Clinical Pathway Implementation at Royal Prima Hospital Medan

Cross tabulation data on 83 respondents showed that the majority of the inhibiting factors were in the large category, the implementation of the Clinical Pathway was also in the bad category as many as 13 people (15,6%). The majority of the inhibiting factors were in the small category, the implementation of the Clinical Pathway in the good category was 46 people (55.4%). Implementation of clinical pathways can be a means to improve the quality of hospital services, improve patient safety in hospitals and increase protection for patients, the community and hospital resources [2]. Based on the results of the Fisher's Exact test, p value = 0.002 ($p < 0.05$), then there is a significant influence between the inhibiting factors and the implementation of the Clinical Pathway at Royal Prima Hospital Medan. The results of this study are in line with the results of Devitra's qualitative research [13], namely obstacles in terms of operational policies, commitment, clinical leadership, motivation and evaluation that still need to be improved. And the lack of socialization about clinical pathways from the management. The results of this study are also in line with the research results of Widyanita et.al [18] namely there are obstacles in the implementation of clinical pathways, namely not being familiar with the clinical pathway, lack of awareness or commitment, time constraints, forgetting and there is no case manager.

Influence of Regulation, Compliance, Supporting Factors and Inhibiting Factors on Clinical Pathway Implementation at Royal Prima Hospital Medan

The results of the t-test using a significance level of 0.05 on the regulatory, compliance, supporting, and inhibiting variables on the implementation of the Clinical Pathway at the Royal Prima Hospital Medan, the results obtained that the regulatory variable is the variable that has the most influence on the implementation of the Clinical Pathway at the Royal Prima Hospital Medan. (Sig.0.001). The results of this study are in line with the results of Wardhana's research [19], which concludes that knowledge, attitudes, competencies, cooperation, commitment, policies and infrastructure are factors that support the implementation of the Clinical Pathway to run well. The application of this clinical pathway really requires hospital support in the form of policies. Without policy support from management, clinical pathways cannot be implemented because policies in a hospital are the legal basis for implementing a program [13]. Implementation of clinical pathways can be a means to improve the quality of hospital services, improve patient safety in hospitals and increase protection for patients, the community and hospital resources [2].

IV. CONCLUSION

The following conclusions in this study are:

- a. There is an influence between regulations on the implementation of the Clinical Pathway at Royal Prima Hospital.
- b. There is an influence between adherence to the implementation of the Clinical Pathway at Royal Prima Hospital.
- c. There is an influence between supporters on the implementation of the Clinical Pathway at Royal Prima Hospital.
- d. There is an influence between the barriers to the implementation of the Clinical Pathway at the Royal Prima Hospital.
- e. Regulations have a major influence on the implementation of the Clinical Pathway at Royal Prima Hospital.

The suggestions in this research are:

- a. Hospitals are expected to strengthen policies regarding the implementation of the Clinical Pathway to improve health services in hospitals.
- b. Caregivers are expected to maintain compliance with the implementation of the Clinical Pathway to improve health services in hospitals.
- c. Educational institutions are expected to continue to innovate to support the realization of excellent health services in hospitals.

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