

Analyzed Workload and Performance of Nurses in Hospital Salak, North Pakpak Regency Toward Patient Safety Implementation during the COVID-19 Pandemic

Yunestini Gulo¹, Chrismis Novalinda Ginting², Ermi Girsang³,
Ali Napih Nasution⁴

Program Study Master of Public Health, School of Medical, University Prima Indonesia,
Medan North Sumatera, Indonesia.

Corresponding Author: Yunestini Gulo

DOI: <https://doi.org/10.52403/ijrr.20220607>

ABSTRACT

Patient care providers, especially nurses, contribute to the occurrence of errors that threaten patient safety. These errors can have an impact on the implementation of nurses in the implementation of patient safety. One of the factors causing the implementation of patient safety does not run optimally because of the nurse's workload. This paper described about analyze the relationship between workload and nurse performance on the implementation of patient safety during the Covid-19 pandemic and analytical study with a cross-sectional approach. The research was conducted at Salak Hospital, Pakpak Bharat Regency also population was 100 people and the entire population was sampled. Data analysis used univariate, bivariate with chi-square test, and multivariate with multiple logistic regression at 95% confidence level ($p=0.05$). The results show that there is a relationship between physical workload, discipline, and cooperation on the implementation of patient safety during the Covid-19 pandemic, $p < 0.05$. While the unrelated variables are psychological workload, service orientation, integrity, and commitment, $p > 0.05$. The variable that has the biggest relationship to the implementation of patient safety during the Covid-19 pandemic is the physical workload with a value of $\text{Exp(B)}/\text{OR} = 13,453$. The management of Salak Hospital in Pakpak Bharat Regency needs to provide education and training to all nurses related to the

implementation of patient safety during the Covid-19 pandemic, as well as to divide tasks fairly to all nurses so that the physical workload borne by each nurse is not unequal so that it has an impact on performance. who are not good at implementing patient safety.

Keywords: Nurse Workload, Nurse Performance, Patient Safety Implementation

INTRODUCTION

Patient safety is a fundamental element of health care and can be defined as freedom for the patient from unnecessary harm or potential harm associated with health care. Medical errors can occur during various modalities of prevention, diagnosis, treatment, and follow-up. Today's healthcare is becoming increasingly complex and can include a complex set of procedures and processes, increasing the likelihood of errors (WHO, 2015).

The world health agency, the World Health Organization (WHO) 2004 has launched a patient safety program called WHO Patient Safety. The program has a mission that every patient receives safe health care, without risk and danger, anytime, anywhere (Handayani & Kusumapradja, 2018). Data collected by WHO in 2016 from several hospitals in various countries, namely the United States,

Denmark, England, and Australia found Unexpected Events (KTD) in patients and health workers with a percentage range between 3.2% to 16.6%. (KKPRS, 2015). The annual mortality rate of hospitalized patients due to medical errors in the United States is approximately 33.6 million. Of these, between 44,000 and 98,000 were reported to have died. Medical errors are the eighth cause of death for hospitalized patients (Johnstone & Kanitsaki, 2014).

A study on patient safety culture in Southeast Asian countries conducted Kang, Ho, & Lee, (2021), by conducting a literature study of 21 studies in Indonesia (n =8), Thailand (n=5), Malaysia (n=3), Vietnam (n=2), Singapore (n=1), and the Philippines (n=1). The heterogeneity of the safety culture situation in Southeast Asian countries is caused by the fact that patient safety policies and their implementation are not prioritized as in developed countries. However, Vietnam, Cambodia, Myanmar, and Laos are priority countries for South Korea's official health development assistance in the Southeast Asia region. Therefore, to improve a consolidated patient safety culture by encouraging a patient safety culture in the provincial and central health systems (Kang et al., 2021). Patient Safety Incident Reports in Southeast Asia, namely the percentage of Near Injury Incidence (KNC) is 18.53%, Unexpected Events (KTD) is 14.41%, due to clinical procedurals 9.26%, medication is 9.26%, and the patient fell that is 5.15% (Sipayung, 2020).

The patient safety movement (patient safety) in Indonesia began in 2005 when the Indonesian Hospital Association (PERSI) formed the Hospital Patient Safety Committee (Handayani & Kusumapradja, 2018). Patient safety is the patient's right to obtain security and safety for himself while in-hospital treatment. By Law no. 36/2009 concerning health, article 53 paragraph (3) states that the implementation of health services must prioritize the safety of the patient's life (Ministry of Health RI, 2009). The patient safety program is an effort to

reduce the number of Unexpected Events (KTD) experienced by patients during hospitalization which hurts patients and hospitals. (Nursalam, 2016).

Reporting Patient safety incidents in Indonesia by the province in 2014 were West Java (33.33%), Banten and Central Java each 20%, DKI Jakarta (16.67%), Bali (6.67%), and East Java (3.33%). Based on data from the hospital health team, the incidence of accidents by nurses was 4.55% (KKPRS, 2015). Study Utarini, et al. (2014) in Central Java, the incidence of unexpected events (KTD) varies, where the error in diagnosis is between 8.0% to 98.2% and medication error is between 4.1% to 91.6%.

North Sumatra University Hospital Data January-June 2018 period regarding patient safety based on indicators of patient identification accuracy, nurses did not identify before carrying out procedures (39.3%), nurses did not identify before giving blood transfusions/blood products (40.2%) nurses did not identify before administering drugs (38.7%), nurses did not identify before taking blood or specimens (39.3%) (Simamora, 2019).

During this Covid-19 pandemic, excessive workloads make health workers lack rest and affect their immunity, thereby increasing the morbidity and mortality of health workers while dealing with Covid-19 patients. During this Pandemic period, hospitals or health services should not increase the workload of medical personnel but manage working time (Yuliawati, 2020).

All nurses during the pandemic who carried out treatment for Covid-19 and Non-Covid 19 patients had sacrificed their personal and family interests. Nurses have sacrificed safety and face the threat of contracting a virus that could end in death. As part of the front line in dealing with Covid-19 cases, not a few have experienced exhaustion both physically and mentally. The high workload in handling Covid-19 cases and the use of level 3 personal protective equipment (PPE) greatly affects the decline in body immunity, increases the risk of contracting the virus, decreases the

implementation of patient safety. (Friandani, 2021).

Research conducted by Kusumaningsih (2020) at the UPT of the Pesawaran District Inpatient Health Center showed that there was a relationship between the physical workload of nurses and the implementation of patient safety during the Covid-19 pandemic. Study Sriningsih & Agustyaningsih (2018) at the Balaraja Hospital, the results showed that there was a relationship between workload and the implementation of patient safety for nurses. A light nurse's workload is eight times more likely to implement patient safety compared to nurses who state that their workload is heavy. Other research by Hasanah, Aira, & Widiastuti (2019) in the inpatient room at RSUD Raden Mattaher Jambi that from the correlation analysis showed a positive correlation between the workload of nurses and patient safety.

The results of the initial interview with the head of the inpatient ward that in recent years, an Unwanted Event (KTD) has occurred in Salak Hospital, Pakpak Bharat Regency. KTD that occurred was not reported properly. the patient almost fell due to the lack of supervision of the room nurse in adjusting the patient's sleeping position, the nurse's error in administering the drug to the patient, the nurse injecting the patient incorrectly, resulting in the patient experiencing swelling at the injection site. Nurse errors that sometimes occur in assessing the problems faced by patients, errors in diagnosing patient nursing problems, errors in planning nursing actions, errors in giving nursing actions, errors in documentation, and errors in giving medicines that have the most impact on patients.

The initial observations that the researchers made, were still found by nurses at Salak Hospital, Pakpak Bharat Regency who did not work to apply the principle of patient safety. Several incidents were carried out not by Standard Operating Procedures (SOPs) so that they could endanger patient safety. For example, nurses

start nursing actions without washing their hands first, nurses' motivation to carry out patient safety is also still low.

LITERATURE REVIEW

2.1. Implementation

According to the Webster Dictionary, implementation is a translation of the word "implementation", derived from the verb "to implement", the word to implement comes from the Latin "implementation" from the origin of the word "empire" which means "to fill up". "to fill up" means to fill in full, complete, while "place" means "to fill", that is to fill. Furthermore, the word "to implement" is intended as: First, to implement is intended to "bring to a result (effect), complete and complete". Second, to implement is intended to "provide means (tools) to carry out something, to provide practical results for something". Third, to implement is intended to provide or complete with tools (Thoha, 2018).

An implementation is a form of action or implementation that comes from a detailed and mature plan that has been prepared. Implementation is generally carried out after a plan is considered complete. Implementation boils down to actions, actions, and activities or the existence of a system mechanism. However, implementation is not just an activity, but also an activity that is planned and aims to achieve the planned goals (Usman, 2017). Meanwhile, according to Setiawan, implementation requires a network of implementers, an effective bureaucracy as an extension of activities that mutually adjust the interaction process between goals and actions taken to achieve them. (Setiawan, 2014).

Several factors determine the success or failure of an implementation process, namely: 1. The quality of the policy itself. 2. Adequacy of policy inputs (especially budget). 3. The accuracy of the instruments used to achieve the policy objectives (services, subsidies, grants, and others). 4. Implementor capacity

(organizational structure, HR support, coordination, supervision, and so on). 5. Characteristics and support of the target group (whether the target group is an individual or a group, male or female, educated or not) 6. Geographical, social, economic, and political environmental conditions in which the implementation is carried out.

2.2. Patient Safety

Patient safety is a basic principle of health care (WHO, 2014). According to the Hospital Patient Safety Committee (KKPRS), patient safety is a process in a hospital that provides safer patient services. This includes risk assessment, identification, and management of patient risks, incident reporting, and analysis, the ability to learn and follow up on incidents, and implementing solutions to reduce and minimize risks. (KKPRS, 2015). Implementation of patient safety is the action of health workers related to the absence of errors or freedom from injury due to accidents. Patient safety in hospitals is a system where hospitals make patient care safer which includes risk assessment, identification, and management of matters relating to patient risk, reporting, and incident analysis.

The Institute of Medicine (IOM) in the Indonesian Ministry of Health (2015) defines patient safety as freedom from accidental injury. Safety is stated to be the first domain of quality and this definition of safety is a statement from the patient's perspective. Another understanding according to Hughes, states that patient safety is the prevention of injury to patients. Injury prevention is defined as being free from harm that occurs accidentally or can be prevented as a result of medical treatment. While patient safety practice is defined as reducing the risk of undesirable events associated with exposure to the scope of a diagnosis or medical treatment condition.

The Hospital Patient Safety Committee (KPPRS) defines safety as free from danger or risk. Patient safety is a

patient free from the risk of injury that should not occur or free from potential risks (illness, physical/social/psychological injury, disability, death, etc.), related to health services. (KKPRS, 2015).

According to the Regulation of the Minister of Health of the Republic of Indonesia (Permenkes RI) Number, 1691/Menkes/Per/ VIII/2011 concerning hospital patient safety is a system where hospitals make patient care safer which includes risk assessment, incident reporting, and analysis, the ability to learn from incidents and their follow-up and implementation of solutions to minimize risks and prevent them from occurring. an injury caused by an error as a result of carrying out an action or not taking the action that should have been taken (Ministry of Health RI, 2011).

2.3. Types of Patient Safety Incidents in Hospitals

The Indonesian Ministry of Health (2008) states that a patient safety incident is an event or situation that can result in or has the potential to result in injury that should not have occurred or could have been prevented. The types of incidents are as follows:

1. An adverse event is an incident that results in injury to the patient as a result of carrying out an action or not taking the action that should have been taken, and not because of the underlying disease or condition of the patient. Injuries can result from medical errors or non-medical errors.
2. A near-miss event (KNC) is an incident that does not cause injury to the patient due to acting (commission) or not taking the action that should have been taken (omission), can occur because:
3. Luck, for example, is a patient who receives a contraindicated drug but does not have a drug reaction.
4. Prevention, for example, the patient is accidentally given a lethal dose of a drug, but other staff know and cancel it before the drug is given.

5. Mitigation, for example, the patient has been accidentally given a lethal dose of a drug, it is detected early and then the antidote is given, so as not to cause significant injury.

A patient safety incident is an event or situation that could cause or have the potential to result in injury that should not have occurred. Patient Safety Incidents in hospitals have different types consisting of Potential Injury Events (KPC), Near Injury Events (KNC), Non-Injury Events (KTC), Unexpected Events (KTD), or adverse events and Sentinel or sentinel events (KARS, 2017).

2.4. Patient Safety Goals

Apart from safety standards, there is another important point in the implementation of patient safety, namely patient safety goals or Patient Safety Goals. The patient safety goal is a requirement to be applied in all hospitals accredited by the hospital accreditation commission. The setting of this target refers to the Nine Life-Saving Patient Safety Solutions from WHO Patient Safety (2010) which is also used by the PERSI Hospital Patient Safety Committee (KKPRSI), and the Joint Commission International (JCI).

according to Joint Commission International (2015) there are six patient safety goals, namely:

1. Correct patient identification
2. Improve effective communication
3. Improving the safety of drugs that need to be wary
4. Certainty right location, right procedure, right patient operation
5. Reducing the risk of infection related to health services
6. Reduction of the patient's risk of falling.

Patient Safety Goals (SKP) is a requirement to be applied in all hospitals accredited by the Hospital Accreditation Commission. The preparation of this target refers to the Nine Life-Saving Patient Safety Solutions from the World Health Organization (WHO) that Patient Safety (2010) which is also used by the PERSI

Hospital Patient Safety Committee (KKPRS, PERSI), and from the Joint Commission International (JCI).). The purpose of the Patient Safety Goals is to promote specific improvements in patient safety. Objectives highlight problematic areas of health care and describe evidence and solutions from evidence-based consensus and expertise on these issues. It is recognized that intrinsically good system design is to provide safe and high-quality health care,

2.5. Nurse Workload

Workload is the amount of work that must be borne by a position/organizational unit and is the product of the work volume and the time norm. The definition of workload is a set or number of activities that must be completed by an organizational unit or position holder within a certain period of time. Measurement of workload is defined as a technique to obtain information about the efficiency and effectiveness of the work of an organizational unit or position holder which is carried out systematically using job analysis techniques, workload analysis techniques or other management techniques. (Utomo, 2017).

Nurse workload is all activities or activities carried out by a nurse while on duty in a service unit in nursing, workload or workload is defined as patient days which refers to the number of procedures, visits to clients (Marquis & Houston, 2018). Gillies (2014) states that in order to estimate the workload of nurses in a unit, managers must collect data about: the number of patients admitted to the unit daily/month/year, the condition or level of dependence of the patient, in the unit, the average days of patient care, the type of treatment nursing care needed by the patient, the frequency of each nursing action needed by the patient, the average time required to provide nursing actions (Munandar, 2015).

METHODS

The type of research used in this research is quantitative analytical study research, namely research conducted to

obtain valid explanations will be researched. Quantitative analytical research aims to analyze The Relationship between Workload and Nurse Performance at Salak Hospital, Pakpak Bharat Regency, on the Implementation of Patient Safety during the Covid-19 Pandemic. The research design used was cross sectional, namely the research variables were examined directly at the time of the study.

Population is a generalization area consisting of objects or subjects that have certain quantities and characteristics that determined by the researcher to be studied and then drawn conclusions (Sugiyono, 2015). The population of this study were all nurses who were in the inpatient room of the Salak Regional General Hospital as many as 100 people.

The sample is a part taken from the entire object under study and is considered to represent the entire population (Notoatmodjo, 2017). The sample in this study was the entire population, namely nurses in the inpatient room at the Salak Regional General Hospital as many as 100 people (total sampling).

Meanwhile, bivariate analysis aims to determine the relationship between two variables, namely the independent variable and the dependent variable. The statistical test used is Kai squared or χ^2 (Pearson chi square), using a 95% confidence degree.

Based on the results of statistical calculations can be seen the significance of the relationship between the two variables, namely:

- a. If the probability (p value) 0.05 means that there is a significant relationship between the independent variable and the dependent variable
- b. If the probability (p value) > 0.05 means that there is no significant relationship between the independent variable and the dependent variable.

Multivariate analysis was conducted to determine the most dominant factors that influence the implementation patient safety by nurses at the Salak Regional General Hospital. This study uses multiple

logistic regression analysis with modeling at the significance level of $p < 0.05$ and CI (Confidence Interval) and the variable that is the candidate model has a p value of < 0.25 . Furthermore, to find out the significant variables using the 95% confidence interval ($p = 0.05$).

ANALYZE AND RESULT

4.1. Description of Research Site

Beginning establishment of Salak Hospital based on the Decree of the Regent of Pakpak Bharat No. 157 of 2004 concerning increasing the inpatient function of the Salak Health Center to become a Class C Hospital. Then on January 30, 2017 according to the decision of the Head of the Pakpak Bharat District Health Office Number 440.441/0151/2017 Salak Hospital has received a Class C General Hospital classification. Salak Hospital having its address at Jln. Raja David, Boangmanalu Village, Salak District, Pakpak Bharat Regency, postal code 22272.

Salak Hospital always strives to make updates to the health services provided so that it is expected to realize the vision of the Salak Regional General Hospital, which is to become a responsive and quality hospital in accordance with professionalism in providing health services. The vision of the Salak Regional General Hospital is the realization of a Quality Responsive Hospital. Meanwhile, the mission of the Salak Regional General Hospital is as follows:

1. Improving hospital services towards healthy homes.
2. Creating a comfortable, safe, beautiful and clean hospital environment.
3. Provide adequate and quality human resources through education and training according to hospital needs.
4. Completing health advice and infrastructure according to the type of hospital.
5. Completing and setting SOPs in accordance with the progress of science and technology.

6. Improving the welfare of hospital personnel.

Regional General Hospital Motto Salak is to serve with LOVE, which is an acronym for Convenience, Accuracy, Politeness, Intimacy, Respect. The existing health services at the Salak Regional General Hospital are inpatient and outpatient, basic and specialist, emergency department (IGD), dental polyclinic, radiology, laboratory and Hospital Blood Transfusion Unit (UTDRS), and ambulance.

The main duties and functions of the Salak Hospital are stipulated in Regional Regulation Number 06 of 2008 concerning Organization and Work Procedure of the Pakpak Bharat Regency Regional Technical Institution and Regent Regulation Number 25 of 2017 concerning Position, Organizational Structure, Duties and Functions and Work Procedures of the Technical Implementation Unit of the District Health Office Mr. Bharat.

The Salak Regional General Hospital has the task of carrying out health efforts by prioritizing activities for healing patients and recovering from physical and mental disabilities that are carried out in a harmonious, integrated manner with efforts to increase (promotive) and prevent (preventive) as well as carry out referral health efforts. In carrying out these tasks, the Salak Regional General Hospital carries out the following functions:

- a. Provide and organize:
 - 1. Medical services
 - 2. Medical support services
 - 3. Maintenance service
 - 4. Rehabilitation services
 - 5. Health prevention and promotion
- b. As a place for education and or training for medical personnel and medical staff
- c. As a place of research and development of science and technology in the health sector.

4.2. Characteristics of Respondents

Based on the results of the study, the characteristics of the respondents can be seen in the following table.

Table 1. Frequency Distribution of Respondents Based on Characteristics at Salak Hospital, Pakpak Bharat Regency in 2021

No	Characteristics	Amount	
		f	%
1.	Age:		
	a. 20-40 years old	80	80.0
	b. 41-60 years old	20	20.0
Amount		100	100.0
2.	Gender:		
	a. Man	30	30.0
	b. Woman	70	70.0
Amount		100	100.0
3.	Education:		
	a. D3	82	82.0
	b. S1	10	10.0
	c. nurse	8	8.0
Amount		100	100.0
4.	Length of work:		
	a. 1-10 years	63	63.0
	b. 11-20 years old	36	36.0
	c. 31-40 years old	1	1.0
Amount		100	100.0

Table 1. above it is known that the majority of respondents aged 20-40 years as many as 80 people (80.0%), a small portion aged 41-60 years as many as 20 people (20.0%). Based on gender, most of the respondents were female as many as 70 people (70.0%), a small portion were male as many as 30 people (30.0%). Based on education, most of the respondents had D-III education as many as 82 people (82.0%), a small portion had Nurses education as many as 8 people (8.0%). Based on the length of work, most of the respondents worked in Salak Hospital, Pakpak Bharat Regency for 1-10 years as many as 63 people (63.0%), a small portion worked for 31-40 years as many as 1 person (1.8%).

4.2. Univariate

Based on the results of the research, the variables studied were physical workload, psychological workload (mental), service orientation, integrity, commitment, discipline, cooperation and implementation of patient safety can be seen in the following table.

Tables 2. above, it is known that most of the respondents stated that the physical workload was in the light category as many as 78 people (78.0%). Based on the psychological workload, most of the respondents stated that the psychological

workload was in the light category as many as 79 people (79.0%).

Table 2: Frequency Distribution of Respondents Based on Variables Physical Workload, Psychological (Mental) Workload, Service Orientation, Integrity, Commitment, Discipline, Cooperation and Patient Safety Implementation at Salak Hospital, Pakpak Bharat Regency in 2021

No.	Physical Workload	f	%
1.	Light	78	78.0
2.	Heavy	22	22.0
Amount		100	100.0
No.	Psychological Workload	f	%
1.	Light	79	79.0
2.	Heavy	21	21.0
Amount		100	100.0
No.	Service Orientation	f	%
1.	Good	77	77.0
2.	Not enough	23	23.0
Amount		100	100.0
No.	Integrity	f	%
1.	Good	72	72.0
2.	Not enough	28	28.0
Amount		100	100.0
No.	Commitment	f	%
1.	Good	73	73.0
2.	Not enough	27	27.0
Amount		100	100.0
No.	Discipline	f	%
1.	Discipline	75	75.0
2.	Lack of discipline	25	25.0
Amount		100	100.0
No.	Cooperation	f	%
1.	Good	76	76.0
2.	Not enough	24	24.0
Amount		100	100.0
No.	Patient safety implementation	f	%
1.	Good	74	74.0
2.	Not enough	26	26.0
Amount		100	100.0

Based on the service orientation, most of the respondents stated that the service orientation was good as many as 77 people (77.0%), a small part stated that the service orientation was not good as many as 23 people (23.0%). Based on the integrity of the employees, most of the respondents have integrity in the good category as many as 72 people (72.0%), a small proportion stated integrity in the poor category as many as 28 people (28.0%).

Based on employee commitment to work, most of the respondents had commitments in the good category as many as 73 people (73.0%), a small proportion of respondents had commitments in the poor category as many as 27 people (27.0%). Based on employee discipline at work, most respondents admitted to being disciplined as many as 75 people (75.0%), a small proportion of respondents felt less

disciplined as many as 25 people (25.0%). Based on the variable of employee cooperation in working in the hospital, most of the respondents stated that the cooperation between employees was in the good category as many as 76 people (76.0%), a small part stated that the cooperation was in the poor category as many as 24 people (24.0%).

Multivariate Analysis

To analyze the relationship between workload and performance nurses on the implementation of patient safety during the Covid-19 pandemic simultaneously carried out multivariate data analysis using multiple logistic regression through several steps:

1. Conducting the selection of variables that have the potential to be included as candidate models. The variables selected as candidates are variables that have a significant value in bivariate analysis, namely $p < 0.25$.
2. In this modeling, the candidate variables, namely variables having p value < 0.25 in bivariate analysis (chi-square test) were included together in multivariate analysis. The use of statistical significance of 0.25 as a requirement in multiple logistic regression tests to allow variables that are hiddenly considered to be less related are actually very important to be included in the multivariate model.
3. Based on the results of bivariate analysis, the variables that can be used as candidate models in the multiple logistic regression test in this study because they have a significant value < 0.25 as many as 7 variables, namely physical workload ($p=0.000$), psychological workload (mental) ($p=0.000$), service orientation ($p=0.002$), integrity ($p=0.002$), commitment ($p=0.001$), discipline ($p=0.000$) and cooperation ($p=0.000$).
4. Further testing was carried out with multiple logistic regression simultaneously with the forward conditional method to identify the

variables most related to the implementation of patient safety during the Covid-19 pandemic. The forward conditional method is to enter one variable at a time from the results of the correlation of variables and meet the criteria for statistical significance to enter the model, until all variables that meet these criteria are included in the model. The first entered variable is the variable that has the largest partial correlation with the dependent variable

and which meets certain criteria to be included in the model.

Based on the results of the multiple logistic regression test that has been carried out show that of the 7 variables tested, 3 variables relate to the implementation of patient safety during the Covid-19 pandemic, namely physical burden, discipline and cooperation. The complete multiple logistic regression test results can be seen in the following table.

Table 3. Multiple Logistics Regression Test Results

Variable	B	Sig.	Exp(B)	95%CI for Exp(B)
Physical Workload	2,599	0.000	13,453	3,322-54,477
Discipline	1,949	0.007	7,025	1,689-29,214
Cooperation	1,492	0.041	4,445	1,061-18,630
constant	-9,102	0.000		

Based on the results of the multiple logistic regression test, the significant value of the model together was obtained at 0.000 < 0.05, which means that the three significant variables as models in this study have a significant relationship to the implementation of patient safety during the Covid-19 pandemic.

The variable that has the greatest relationship in this study is the physical workload variable which has a value of $\text{Exp(B)/OR} = 13,453$ meaning that nurses who state that their physical workload is light, have the opportunity to implement patient safety during the Covid-19 pandemic properly by 13.4 times. higher than nurses who stated heavy physical workload.

Discipline variables that have a value of $\text{Exp (B) / OR} = 7.025$ means that nurses who are disciplined have the opportunity to implement patient safety during the Covid-19 pandemic well by 7 times higher than nurses who are less disciplined.

The cooperation variable that has a value of $\text{Exp (B)/OR} = 4.445$ means that nurses who state good cooperation, have the opportunity to implement patient safety during the Covid-19 pandemic well, which is 4.4 times higher than nurses who state that their cooperation is not good.

CONCLUSION

Based on the results of research that has been carried out and has been presented in the previous chapter can be concluded as follows:

1. There is an effect of physical workload on the implementation of patient safety during the Covid-19 pandemic at Salak Hospital, Pakpak Bharat Regency in 2021, $p = 0.041 < 0.05$.
2. There was no effect of psychological (mental) workload on the implementation of patient safety during the Covid-19 pandemic at Salak Hospital, Pakpak Bharat Regency in 2021, $p = 0.347 > 0.05$.
3. There was no effect of service orientation on the implementation of patient safety during the Covid-19 pandemic at Salak Hospital, Pakpak Bharat Regency in 2021, $p = 0.327 > 0.05$.
4. There is no influence of integrity on the implementation of patient safety during the Covid-19 pandemic at Salak Hospital, Pakpak Bharat Regency in 2021, $p = 0.226 > 0.05$.
5. There is no effect of commitment to the implementation of patient safety during the Covid-19 pandemic at Salak Hospital, Pakpak Bharat Regency in 2021, $p = 0.471 > 0.05$.

6. There is an influence of discipline on the implementation of patient safety during the Covid-19 pandemic at Salak Hospital, Pakpak Bharat Regency in 2021, $p = 0.007 < 0.05$.
7. There is an effect of cooperation on the implementation of patient safety during the Covid-19 pandemic at Salak Hospital, Pakpak Bharat Regency in 2021, $p = 0.041 < 0.05$.
8. The physical workload variable is the most dominant variable that has an influence on the implementation of patient safety during the Covid-19 pandemic at Salak Hospital, Pakpak Bharat Regency in 2021 with a value of $\text{Exp(B)}/\text{OR} = 13,453$.

Acknowledgement: None

Conflict of Interest: None

Source of Funding: None

REFERENCES

1. Absah, Y. (2014). The Effect of Commitment on the Performance of Environmental Health Management System Officers at the Regional General Hospital dr. H. Yuliddin Away Tapaktuan 2014. Master of Public Health, University of North Sumatra.
2. Agustina, P. (2014). Patient Safety Culture in the Inpatient Installation of RSUP DR. Wahidin Sudirohusodo, Makassar City. *Journal of MKMI*, 4(3), 57–64.
3. Andyka, Abdullah, R., & Hasmin. (2017). Analysis of the Effect of Nurse Competence, Motivation and Discipline on the Implementation of Patient Safety in Nursing Care at the Haji Hospital, South Sulawesi Province. *Journal of Mirai Management*, 2(2), 201–215.
4. Aprilingsih. (2013). Teamwork in Patient Safety Culture at Hospital X (Qualitative Study in a Hospital in West Java Province). *Scientific Journal of Health*, 5(3), 51–56.
5. As'ad, M. (2018). *Industrial Psychology, Human Resources Science Series*. Jakarta: Liberty.
6. Cahyono, JB, & Suharjo, B. (2014). *Building a Culture of Patient Safety in Medical Practice (Print 1)*. Yogyakarta: Kanisius.
7. Carayon, P., & Ayse, PG (2014). *Nursing Workload and Patient Safety – A Human Factors Engineering Perspective*. In *Patient Safety and Quality: An Advance – Based Handbook for Nurses*. Washington DC: The National Academies Press.
8. Effendi, F., & Makhfudli. (2015). *Community Health Nursing: Theory and Practice in Nursing (Print 2)*. Jakarta: Salemba Medika.
9. Friandani, WJ (2021). *The Role of Nurses During the Covid-19 Pandemic* Retrieved July 1, 2021, from <https://rs.uns.ac.id/> website: <https://rs.uns.ac.id/peran-perawat-di-masa-pandemi-covid-19/>
10. Ghozali, I. (2015). *Application of Multivariate Analysis with the SPS Program (Print 7)*. Semarang: University of Diponegoro Press.
11. Gibson, ID (2007). *Organization: Behavior, Structure, Process (Fifth)*. Jakarta: Erlangga.
12. Gillies, D. (2018). *Nursing Management: A Systems Approach*. Philadelphia: WB Saunders.
13. Handayani, Y. V, & Kusumapradja, R. (2018). The Influence of Nurses' Work Motivation on the Implementation of Patient Safety Programs in the Inpatient Unit of Hospital X South Tangerang. *Hospitalia*, 1(1), 67–80.
14. Handoko, HT (2018). *Personnel Management and Human Resources*. Yogyakarta: BPFE.
15. Hardianti. (2014). *The Relationship between Leadership Quality and Officer Performance at the Tamalanrea Public Health Center Makassar*. Department of Health Administration and Policy FKM Hasanuddin University.
16. Hasanah, N., Aira, DMF, & Widiastuti, F. (2019). *The Relationship between Nurse Workload and Patient Safety Implementation in the Inpatient Room at Raden Mattaher Jambi Regional General Hospital*. Jambi University Faculty of Economics and Business.
17. Hidayat, AAA (2016). *Introduction to the Basic Concepts of Nursing (Print 3)*. Jakarta: Salemba Medika.
18. Ilyas, Y. (2015). *Hospital HR Planning, Theory, Methods and Formulas*. Center for Health Sciences FKM-UI. Prima Business CV.

19. Ilyas, Y. (2017). *Performance Theory, Assessment and Research*. Jakarta: Center for Health Economics Studies, Faculty of Public Health, University of Indonesia.
20. Johnstone, MJ, & Kanitsaki, O. (2014). Patient Safety and the Integration of Graduate Nurse into effective Organizational Clinical Risk Management System and Process. *Quality Management in Health Care*, 17(2), 162-173.
21. Kang, S., Ho, TTT, & Lee, NJ (2021). Comparative Studies on Patient Safety Culture to Strengthen Health Systems Among Southeast Asian Countries. *Frontiers in Public Health*. <https://doi.org/10.3389/fpubh.2020.600216>
22. KARS. (2017). *National Standard for Hospital Accreditation*. Jakarta: Hospital Accreditation Committee (KARS).
23. Kasim, S., Robot, FJM, & Hamel, R. (2013). The Relationship between Time Discipline and Nurse Performance in the Implementation of Patient Safety at the Tataba Health Center, Buko District, Banggai Islands Regency. *Nursing Ejournal (e-Kp)*, 1(1), 1–6.
24. Indonesian Ministry of Health. (2009). RI Law NO 36 of 2009 concerning Health. Jakarta: Ministry of Health of the Republic of Indonesia.
25. Indonesian Ministry of Health. (2011). Regulation of the Minister of Health of the Republic of Indonesia Number 1691/Menkes/Per/VIII/2011 concerning Hospital Patient Safety. Jakarta: Ministry of Health of the Republic of Indonesia.
26. Indonesian Ministry of Health. (2015). Guidelines for infection prevention and control in hospitals and other health services. Jakarta: Ministry of Health of the Republic of Indonesia.
27. KKPRS. (2015). Guidelines for Patient Safety Incident Reporting (IKP) (Patient Safety Incident Report). Jakarta: Hospital Patient Safety Committee (KKPRS).
28. Kohn, LT, Corrigan, JM, & Donaldson, MS (2015). Changing the Culture in Medical Education to Teach Patient Safety. *Journal of Health Affairs*, 5(2), 14–21.
29. Krisnawati, KMS, Wijaya, IPG, & Suarjana, K. (2016). The Relationship between Motivation and Work Commitment of Nurses with the Implementation of Patient Safety in the Intensive Room of Sanglah Hospital Denpasar. *Community of Publishing in Nursing (COPING)*, 4(3), 29–35.
30. Kurniadi, A. (2016). *Nursing Management and Its Prospects. Theory, Concepts and Applications*. Jakarta: Publishing Agency of the Faculty of Medicine, University of Indonesia.
31. Kusumaningsih, D. (2020). Relationship between the physical and mental workload of nurses and the application of patient safety during the COVID-19 pandemic at the UPT of the Pesawaran District Inpatient Health Center. *Indonesian Journal of Health Development*, 2(2), 108–118.
32. Lin, F. (2015). A Literature Review of Organizational, Individual and Teamwork Factors Contributing to be ICU Discharge Process. Cranberra: Australian College of Critical Care Nurses.
33. Mahendra, IT (2014). The Influence of Leadership on Work Discipline, Work Motivation, and Performance of Implementing Nurses in the Inpatient Room of RSJ Menur Surabaya. *Journal of Economics and Management*, 1(1), 22–42.
34. Mangkunegara, AP (2017). *Company Human Resources Management*. Bandung: PT Pemuda Rosdakarya.
35. Manuaba, A. (2015). Relationship between workload and work capacity. Jakarta: Rineka Cipta.
36. Marquis, BL, & Houston, CJ (2018). *Nursing Leadership and Management: Theory and Application*. Jakarta: EGC Medical Book Publisher.
37. Martyastuti, NE (2016). The Relationship Between Individual Factors And Organizational Factors With The Performance Of Implementing Nurses In The Application Of Patient Safety In The Inpatient Room RSUD Bendan Pekalongan City. Master of Nursing Study Program Concentration of Nursing Leadership and Management Department of Nursing Faculty of Medicine, University of Diponegoro.
38. Mulyadi, D. (2017). *Study of Public Policy and Public Service (Print 2)*. Bandung: Alfabeta.
39. Munandar, USA (2015). *Industrial and Organizational Psychology (Print II)*. Jakarta: University of Indonesia Press.
40. Mundakir. (2016). *Nursing Communications: Applications in Service (Print 2)*. Yogyakarta: Graha Ilmu.

41. Muslimah, F. (2015). Relationship between workload and performance of nurses in the inpatient room of RSUD DR. Rasidin Padang. Andalas University.
42. Notoatmodjo, S. (2017). Health Research Methodology (Print 6). Jakarta: Rineka Cipta.
43. Nurati, OE (2018). The nurse's teamwork relationship with patient safety culture at the National Brain Center Hospital. Faculty of Nursing, University of Indonesia.
44. Nursalam. (2016). Nursing Management Applications in Professional Nursing Practice. Jakarta: Salemba Medika.
45. Prajawanto, A. (2018). Performance Management Development (PMK). Jakarta: Gramedia Group Index.
46. Rahayu, DK, & Handayani, NT (2017). Analysis of Service Orientation through Team Spirit in an Effort to Increase Consumer Satisfaction Using the SERV*OR Model (Case Study on Nurses at Abdul Wahab Sjahranie Hospital, Samarinda). Journal of Industrial Services, 2(2), 126-132.
47. Rahma, A. (2016). The Influence of the Implementation of Team Work Concepts and Organizational Culture on Nurse Performance (Study at the Sunan Kalijaga Regional General Hospital, Demak Regency). Diponegoro Journal of Management, 5(4), 1-11.
48. Rana, S., Kolibu, FK, & Korompis, GEC (2020). The Relationship between Organizational Commitment and Workload on the Performance of Health Workers at the Paniki Bawah Public Health Center, Manado City. Journal of Public Health, 9(6), 53–58.

How to cite this article: Yunestini Gulo, Chrismis Novalinda Ginting, Ermi Girsang et.al. Analyzed workload and performance of nurses in Hospital Salak, North Pakpak Regency toward patient safety implementation during the COVID-19 pandemic. *International Journal of Research and Review*. 2022; 9(6): 41-52. DOI: <https://doi.org/10.52403/ijrr.20220607>
