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**| RESEARCH ARTICLE**

## **Analysis of the Effect of Working Time, Motivation, Education Level and Workload on Performance in Nurses at FMC Bogor Hospital in 2023**

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**| ABSTRACT**

Nurse performance is a measure of success in achieving nursing service goals. The decline in nurse performance greatly affects the service image of a hospital. This study aims to analyze the factors that affect nurses' performance from the working period, workload, education level and motivation in nurses at FMC Bogor Hospital in 2023. This type of research is descriptive cross-sectional analytic. The sampling technique used is the total sampling technique and uses *Chi-square analysis* methods and *Logistic Regression*. The results showed that the majority of nurses were female (56.75%), aged 26-30 years (60.5%), education level D3 Nursing (76.3%), working period >6 years (60.5%), medium workload (72.4%), high motivation (96.1%), and good performance (85.5%). There is a relationship between working life and nurse performance ( $p\text{-value} = 0.000 < 0.05$ ), there is no relationship between workload and nurse performance ( $p\text{-value} = 0.312 > 0.05$ ), there is no relationship between education level and nurse performance ( $p\text{-value} = 0.348 > 0.05$ ), there is a relationship between work motivation and nurse performance ( $p\text{-value} = 0.009 < 0.05$ ). The results of multivariate analysis with logistic regression showed that the Education Level variable had a significant effect with a  $p\text{-value}$  of 0.021 with a risk of 5.7 times to experience poor performance, and the R2 value in the study was 0.751, which means that 75% of all independent variables affect the dependent variable. It is important to improve a nurse's abilities; it is important to develop her knowledge and skills that are better than before so that they can be applied during service and the ability to provide services in hospitals is increased and can make performance better.

**| KEYWORDS**

Analysis, Performance, Nurse

**| ARTICLE INFORMATION**

**ACCEPTED:** 29 July 2023

**PUBLISHED:** 08 August 2023

**DOI:** 10.32996/jmhs.2023.4.4.15

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### **1. Introduction**

A hospital is an organizational institution that has the purpose of service in the field of public health. FMC Hospital is one of the privately owned health service centers in Bogor Regency. This hospital has several rooms, including inpatient rooms, operating rooms, general rooms, delivery rooms and treatment rooms. The whole room also has its own room head. The head of this room is responsible for all rooms entrusted by FMC Hospital.

The results of an initial survey conducted at FMC Hospital in May 2023 found that the hospital is a hospital with C accreditation and has a capacity of 103 inpatient beds and a number of nurses is 76 nurses at FMC Hospital. Patients who seek treatment are referral patients from the puskesmas or who come directly. The division of nurse shifts inpatient is divided into 3 shifts, namely morning, evening and night shifts. Based on previous data on patient and family satisfaction trends Jan-Dec 2021, there was a decrease from January to April, but in May, there was a decrease of 38%; in June, there was an increase in customer satisfaction of 12.01%, But in July, it worsened by 22.92%. In August, there was an improvement of 12.7%. September improvement of 1.12%, October improvement of 7%, November achievement of 100% and December there is a worsening of 1%.

In assessing the success of a service in a hospital, it is necessary to make a measurement. With performance measurement, nursing success becomes visible. If the efficiency of nurses decreases, this can affect the image of hospital services. This certainly causes a lack of public confidence in the hospital's capabilities (Kurniawan, 2020). Nursing work is based on five standard nursing processes. This is stated in the Decree of the Minister of Health No. 26 of 2019, which states that care work is a series of interactions between caregivers and clients and their environment which aims to meet client needs and ensure their freedom to look after themselves and their property. The form of service is professional services that are an integral part of health services provided, based on nursing science and advice and are addressed to individuals, families, groups or communities in good health or illness (Tulasi M, 2021). The study was conducted by Kurniawan H. Padjongan at Dg Ngalle Hospital, Takalaar Regency. It used a sample of several practice nurses who were underperforming or below expectations and who received more complaints from patients about their hospital's service activities.

According to Gibson's theory (2018), There are factors that affect activity, divided into three factors, i.e., factors derived from the individual himself and from the individual's skills and abilities (mental, physical), background (family, social level, experience) of the individual to exist, demographic information (age, education level, length of service). The second factor is psychological factors which include knowledge, attitude and personality, motivation and learning. The final factors are resources/assets, management/supervision, program design, structure, workload, available facilities, technical expertise, and procedures or standards. All of these factors then affect the individual and can affect the performance of that individual (Gibson, 2018).

According to Siagan, Valukov. (2018), which explains that seniority is defined as the number or length of time an employee works in an organization, institution or something else. This work cycle is important to know because it is an indicator of the tendency of employees to complete their work tasks. The higher the position, the more experience the person gains both in terms of skills and in performing the assigned tasks. After surveying nurses, it was found that the average age of nurses is 21,040 years, the length of service varies, and their professional experience also varies.

The workload is all activities or activities carried out by nurses while serving in a nursing service unit. In addition, workload is also understood as the number of tasks that must be completed in a given time. The scope of work is influenced by its role in nursing work and the ability to fulfill that role. Effective task completion time can be used to calculate nurse workload so that the use of nurses' time can be evaluated. Febrian's research on the relationship between workload and employee performance of the Midwifery Academy of the Kudus Regency Government gave results  $r = -0.554$   $p = 0.000$ . The heavier the workload, the worse the performance (February 2020).

To maximize the quality of human resources, it is necessary to select experienced employees who have the appropriate level of education and work discipline. With sufficient work experience, an employee has the skills possessed, especially in global competition and different consumer demands. Hadinata (2018) states that some nurses perform poorly (50%), a small percentage are poorly educated (19.4%), most have never received any training (88.0%), and there is a significant relationship between education ( $p$ -value = 0.004) and training ( $p$  value = 0.018) on the performance of nurses at Majaleangkat Regency Cideres Hospital in 2018.

The work performance of a nurse is supported by good motivation so that it can increase the enjoyment of nurses' work and increase responsibility to do a better job and improve nurse performance (Librianty, 2020). Fardiansyah's research on turnover, motivation and efficiency of nurses at Hasanah Islamic Hospital Mojokerto found that out of 16 respondents, 4 respondents (25.0%) underperformed and as many as 9 respondents (56.25%) underperformed. ) with a fairly good performance and at least 3 respondents (18.75%) with good performance. This shows that motivation also affects the performance of a nurse in the room.

With the background and existing phenomenon that the number of nurses in hospitals is still small, researchers are interested in studying the performance of nurses in FMC hospitals. The purpose of this study was to analyze the factors that affect nurse performance based on the length of service, workload, education level and motivation of nurses at FMC Bogor Hospital.

### **1.1 General Purpose**

It is known the relationship between the influence of tenure, motivation, education level and workload on the performance of nurses at FMC Bogor Hospital 2023

### **1.2 Special purpose**

1. Knowing the distribution of nurse characteristics at FMC Bogor Hospital in 2023
2. Knowing the relationship between Working Period and Nurse Performance at FMC Bogor Hospital in 2023
3. Knowing the relationship between Workload and Nurse Performance at FMC Bogor Hospital in 2023

4. Knowing the relationship between Education Level and Nurse Performance at FMC Bogor Hospital in 2023
5. Knowing the relationship between Motivation and Performance of Nurses at FMC Bogor Hospital in 2023
1. Knowing what risk factors have a significant effect on the performance of nurses at FMC Bogor Hospital in 2023 using the Logistic Regression Method

## **2. Research Methods**

### **2.1 Type and Design of Research**

This research is a cross-sectional analytical descriptive study to see the relationship between working period with questionnaires, motivation with questionnaires, education level with questionnaires, and workload with questionnaires on performance in nurses at FMC Bogor Hospital in 2023.

### **2.2 Location and Time of Research**

Venue: FMC Bogor Hospital

When: May-June 2023

### **2.3 Population and Research Sample**

The target population is all inpatient nurses. The affordable population is all inpatient nurses who actively work at FMC Bogor Hospital. The research sample is the entire population that meets the inclusion criteria and is willing to be included in the study.

**Total sampling technique** in which all nurses are sampled. So a total of 76 respondents.

#### **Inclusion and Exclusion Criteria**

##### **Inclusion Criteria:**

1. Health workers who actively work at FMC Bogor Hospital
2. Minimum 3 months of work at the hospital at FMC Bogor Hospital
3. Health workers agree to be respondents by giving written consent (*inform consent*)

##### **Exclusion Criteria**

1. Inpatient nurse in a pregnant condition
2. Have a history of being diagnosed with a psychiatric disorder
3. Uncooperative at the time of data collection
4. Not answering the questionnaire completely

## **3. Data Collection Methods**

### **3.1 Data Type**

The source of this research data is primary data from nurses at FMC Bogor hospital.

### **3.2 Data Collection Techniques**

Data collection methods:

1. Disseminate "questionnaire packages" containing research explanations, informed consent, questions regarding respondent characteristics, tenure questionnaires, work motivation questionnaires, education level questionnaires, workload questionnaires and performance questionnaires to affordable populations. The questionnaire will be distributed in *hardcopy form*.
2. Respondents who submit a "questionnaire package" will again be checked to exclude answers from respondents who meet the exclusion criteria.

### **3.3 Data Processing and Analysis**

#### **3.3.1 Data Editing**

The data from the questionnaire collection is verified manually (data editing or data *editing*). *Editing* is carried out to check the completeness of data on the respondent data form as well as the length of service, motivation, education level and performance questionnaires so as to facilitate data entry. If there is incomplete data, it will be excluded from the analysis. After the questionnaire is complete, a new one is entered into the *database system* (MS-Excel).

### 3.3.2 Data Entry and Analytics

Furthermore, *data entry is carried out* to the computer through the coding process into the MS Excel database, and for data analysis, will be transferred to SPSS Statistics version 24.0

Data analysis was divided based on univariate and bivariate analysis.

1. Univariate analysis: knowing the description of respondent characteristics by presenting a frequency distribution table to get an overview (descriptive description) of the variables studied. The results of univariate analysis for categorical data are presented in the form of frequency and proportional distributions, while for numerical data when the data are normally distributed, are presented in the form of mean and standard deviation.
2. Bivariate analysis: In analytical tests, chi-square analysis is used to assess the independent variable of the dependent variable at the significance limit of the statistical calculation of p-value (0.05) when the calculation result is obtained  $p < \text{Value (0.05)}$ , then ( $H_0$ ) is rejected, and  $H_a$  is accepted, for example.
3. Multivariate Analysis: The test used is logistic regression with a significance value of F. If it is less than 0.05, then it can be concluded that there is an equal influence between the independent variable and the dependent variable. The results of Adjusted R<sup>2</sup> are used to measure the magnitude of the variable. The simultaneous influence of several independent variables on the dependent variable.

## 4. Research Results

The purpose of this study is to describe the performance of nurses at FMC Bogor Hospital. In this chapter, researchers discuss research results and research limitations. Interpretation of research results obtained compared with related theories or research results. The limitations of research are discussed by comparing the process of conducting research with the ideal conditions that should be achieved.

### 4.1. Research Location Overview

This research was conducted at Bogor Family Medical Center Hospital, an accredited hospital C. FMC Hospital is a private health center built on a plot of land covering an area of 6700 m<sup>2</sup> and located on Jalan Raya Jakarta Bogor KM 51 Kec. Sukaraja, Bogor Regency. Strategically located on the main road connecting Bogor City and Jakarta City and at the main gate of Bogor City Outer Ring Road connecting Sentul to Bogor City, which facilitates patient transportation to both locations, private and public vehicles from all directions (24 hours).

FMC Hospital is currently developing buildings, equipment and facilities. Housed in a 4-storey building, FMC hospital consists of emergency clinics, 22 specialized clinics, 3 central operating rooms, intensive care units (ICU, NICU, HCU), a Perina High Care room, a delivery room and a treatment room with capacity. for 103 people. Beds for a total of 76 people.

### 4.2. Research Results

The study, which was conducted by distributing questionnaires to 76 nurses at FMC Hospital on June 5 – June 7, 2023, obtained the following results:

### 4.4 Univariate Analysis

#### a. General Data

##### 1. Gender

**Table 4.1** Characteristics of Nurses by Gender at FMC Bogor Hospital

No	Gender	Frequency (f)	Percentage (%)
1	Man	26	34.2
2	Woman	50	65.7
	<b>Total</b>	76	100%

Source: Primary Data, Year 2023

Table 4.1 shows that most respondents were female, with 50 respondents (65.7%)

**2. Age of Respondents**

**Table 4.2** Characteristics of Nurses by Age at FMC Bogor Hospital

No	Age	Frequency (f)	Presentase%)
1	21-25 Years	8	10.5
2	26-30 Years	46	60.5
3	31-35 Years	10	13.1
4	36-40 Years	7	9.2
5	>40 Years	5	6.5
	<b>Total</b>	76	100

Source: Primary Data, Year 2023

Table 4.2 shows that most respondents are in the age range of 26-30 years, which is 46 people (60.5%).

**3. Education Level**

**Table 4.3** Characteristics of Nurses Based on Education Level at FMC Bogor Hospital

No	Education Level	Frequency (f)	Presentase%)
1	D3 Nursing	58	76.3
2	S1 Nursing	10	13.1
3	Ners	8	10.5
	<b>Total</b>	76	100

Source: Primary Data, Year 2023

Table 4.3 shows that respondents with the most education level are D3 Nursing, which is 58 people (76.3%).

**4.5 Custom Data**

**1. Period of Service**

**Table 4.4** Frequency Distribution of Respondents Based on Nurses' Working Period at FMC Bogor Hospital

No	Period of Service	Frequency (f)	Percentage%)
1	1-3 Years	7	0.09
2	4-6 Years	23	30.2
3	>6 Years	46	60.5
	<b>Total</b>	76	100

Source: Primary Data, Year 2023

Table 4.4 shows that the tenure of most nurses is >6 years, with as many as 46 respondents (60.5%).

**2. Workload**

**Table 4.5** Frequency Distribution of Respondents Based on the Workload of Nurses at FMC Bogor Hospital

No	Workload	Frequency (f)	Presentase%)
1	Light Workload	16	21.1
2	Medium Workload	55	72.4
3	High Workload	5	6.6
	<b>Total</b>	76	100

Source: Primary Data, Year 2023

Table 4.5 shows that the workload of most nurses is a medium workload of 55 respondents (72.4%).

### 3. Work Motivation

**Table 4.6** Distribution of Respondents' Frequency Based on Nurse Motivation at FMC Bogor Hospital

No	Work Motivation	Frequency (f)	Percentage%
1	Low Motivation	0	0
2	Moderate Motivation	3	3.9
3	Good Motivation	73	96.1
	<b>Total</b>	76	100

Source: Primary Data, Year 2023

Table 4.6 shows that the work motivation of most nurses is good motivation for as many as 73 respondents (96.1%).

### 4. Nurse Performance

**Table 4.7** Frequency Distribution of Respondents Based on Nurse Performance at FMC Bogor Hospital

No	Performance	Frequency (f)	Percentage%
1	Poor Performance	0	0
2	Medium Performance	11	14.5
3	Good Performance	65	85.5
	<b>Total</b>	76	100

Source: Primary Data, Year 2023

Table 4.7 shows that the performance of most nurses is good performance as many as 65 respondents (85.5%).

#### 4.6 Bivariate Analysis

Bivariate analysis is used to analyze the relationship between variables. Bivariate analysis in this study used *the chisquare test* with  $\alpha = 0.05$ .

#### 1. The Relationship of Length of Service with Nurse Performance

**Table 4.8** Relationship of Length of Service to Nurse Performance

Period of Service	Performance		Total	<i>p-value</i>
	Medium Performance	Performance Good		
1-3 years	2	6	8	0.060
4-6 years	9	18	27	
>6 years	0	41	41	
<b>Total</b>	11	65	76	

Table 4.8 above shows that out of 41 nurses at FMC Bogor Hospital with a working period of >6 years, 41 people (100%) had good performance; out of 27 nurses with a working period of 4-6 years, 18 people (66.7%) had good performance and 9 people (33.3%) had moderate performance, and from 8 nurses with a working period of 1-3 years, 6 people (75%) had good performance and 2 people (25%) had moderate performance.

The results of the statistic test using chi-square obtained a value of  $p = >0.05$  so that  $H_0$  was accepted and  $H_a$  was rejected, and it was concluded that there was no relationship between the length of service and the performance of nurses at FMC Bogor Hospital in 2023.

#### 2. Workload Relationship to Nurse Performance

**Table 4.9** Workload Relationship to Nurse Performance

Workload	Performance				Total	<i>p-value</i>
	Medium Performance	%	Good Performance	%		
Light	0	0	5	100	5	0.312
Keep	10	3.3	45	66.9	55	
Tall	1	0.3	15	99.7	16	
<b>Total</b>	11	26.9	65	73.1	76	

Table 4.9 above shows that of the 55 nurses at FMC Bogor Hospital with a moderate workload, 45 people (66.9%) had a good performance, and 10 people (33%) had a medium performance; out of 16 nurses with a high workload, 15 people (99.7%) had a good performance, and 0.3% had medium performance, while 100% nurses with light workload had a good performance.

The results of the satatistic test using chi-square obtained a value of  $p = > 0.05$ , so  $H_0$  was accepted, and  $H_a$  was rejected, and it was concluded that there was no relationship between workload and nurse performance at FMC Bogor Hospital in 2023.

**3. The Relationship Between Education Level and Nurse Performance**

Table 4.10 Relationship between Education Level and Nurse Performance

Tingkat Pendidikan	Kinerja				Total	p-value
	Sedang		Baik			
	Kinerja	%	Kinerja	%		
D3 Keperawatan	9	15.5	49	84.5	58	0.000
S1 Keperawatan	2	20	8	80	10	
Nurse	0	0	8	100	8	
<b>Total</b>	<b>11</b>	<b>14.4</b>	<b>65</b>	<b>85.6</b>	<b>76</b>	

Table 4.10 above shows that out of 58 nurses at FMC Bogor Hospital with a D3 Nursing education level, 49 people (84.5%) had a good performance, and 9 people (15.5%) had a moderate performance. Of the 10 nurses, 8 people (80%) had a good performance, and 2 people (20%) had moderate performance. While of the 8 people with nurse education level, all (100%) have good performance. The results of the satatistic test using chi-square obtained a value of  $p = < 0.05$ , so  $H_0$  was rejected and  $H_a$  was accepted, and it was concluded that there was a relationship between the level of education and the performance of nurses at FMC Bogor Hospital in 2023.

**4. The Relationship of Work Motivation with Nurse Performance**

Table 4.11 Relationship of Work Motivation with Nurse Performance

Motivasi Kerja	Kinerja				Total	p-value
	Sedang		Baik			
	Kinerja	%	Kinerja	%		
Kurang	0	0	0	0	0	0.009
Sedang	2	66.6	1	33.4	3	
Tinggi	9	12.4	64	87.6	73	
<b>Total</b>	<b>11</b>	<b>14.4</b>	<b>65</b>	<b>85.6</b>	<b>76</b>	

Table 4.11 above shows that out of 73 nurses at FMC Bogor Hospital with high work motivation, 64 people (87.6%) had a good performance, and 9 people (12.4%) had a moderate performance. While 3 nurses who have moderate motivation are obtained, 2 people (66.6%) have moderate performance, and 1 person (33.4%) has good performance. The results of the satatistic test using chi-square obtained a value of  $p = < 0.05$ , so  $H_0$  was rejected, and  $H_a$  was accepted, and it was concluded that there was a relationship between work motivation and nurse performance at FMC Bogor Hospital in 2023.

**4.7 Multivariate Analysis**

This multivariate analysis is a method of managing a large number with the aim of determining the influence of these variables on an object simultaneously or simultaneously. Multivariate analysis in this study uses a logistic regression test with the results of F values and F significance values; if less than 0.05, then it can be concluded that there is a joint influence between independent variables on dependent variables, adjusted R2 results are used to measure the magnitude of the simultaneous influence of several independent variables on the dependent variable.

**Tabel 4.12** Analisis Regresi Logistic Variable dalam *Variables in the Equation*

Variabel		B	Sig	Exp (B)
Motivasi Kerja	Motivasi Kerja (1)	38.004	0.995	3.197
Masa Kerja	Masa kerja (1)	52.402	0.994	
Tingkat Pendidikan	Tingkat Pendidikan		0.070	0.000
	Tingkat Pendidikan (1)	-51.591	0.995	2.077
	Tingkat Pendidikan (2)	3.584	0.021	5.725
Beban Kerja	Beban Kerja		1.000	
	Beban Kerja (1)	-18.991	0.999	0.000
	Beban Kerja (2)	.731	1.000	36.000
Constant		-21.101	0.999	0.000

Table 4.12 in the sig column shows the significant influence of the independent variable on the dependent variable. The independent variable is influential if the p value  $< 0.05$ . The Education Level variable (2) has a sig of  $0.021 < 0.05$ . For Education Level (1), the category "S1 Nursing" compared to the Education Level "Ners" is not a significant risk of poor performance. However, with Education Level (2) "D3 Nursing", there is a significant difference in the performance of nurses with Education Level "Ners". The column Exp (B) obtained D3 Nursing has a risk of 5.7 times having poor performance when compared to Ners. In addition, based on logistic regression, workload variables are unrelated but 36 times at risk for poor performance.

## 5. Discussion

### 5.1 Research Content

#### 5.1.1 The Relationship of Length of Service with Nurse Performance

The results of this study showed that out of 41 nurses at FMC Bogor Hospital with a working period of  $> 6$  years, 41 people (100%) had good performance; out of 27 nurses with a working period of 4-6 years, 18 people (66.7%) had good performance and 9 people (33.3%) had moderate performance, and from 8 nurses with a working period of 1-3 years, 6 people (75%) had good performance and 2 people (25%) had moderate performance. The results of the satatistic test using *chi-square* obtained a value of  $p = > 0.05$  so that  $H_0$  was accepted and  $H_a$  was rejected, and it was concluded that there was no relationship between the length of service and the performance of nurses at FMC Bogor Hospital in 2023.

This research is in accordance with the results of Zulkifli's (2019) research which states that there is no relationship between the length of service and nurse compliance in carrying out their work in terms of preventive measures for falling patients. Other research results that are in line with this study are research by Asmuji which shows that there is no relationship between the length of service and the performance of nurses in the implementation of nursing care documentation (Walukow., 2018).

The results of the study above are not in accordance with the results of Walukow's research (2018) at the South Minahasa Regional General Hospital (RSUD) found a relationship between working time and nurse performance. Based on the results of statistical analysis with *the chi-square test*, a p value = 0.012 was obtained. The results of this study are also not in line with Zainaro's (2017) research at Dr.A. Hospital. Dadi Tjokrodipo Bandar Lampung, where the length of service affects the performance of nurses, with a *p-value* of 0.014.

The working period is the total time an employee works for an agency (Supriyatna.2020). Work experience also affects a person's performance; the longer a person's work period, the better it will be because they have adjusted to their work and environment. Researchers assume that long-term working relationships  $> 6$  years fall into the senior category, meaning nurses have a longer tenure in the company. Nurse performance can be affected by several factors, such as encouragement from hospital leadership, permanent staffing, and a supportive work environment. Researchers suggest that nurses aged  $\leq 6$  years and  $> 6$  years exchange ideas or opinions, as well as knowledge and skills, and the hospital can control the activities of each nurse. And don't hesitate to give awards for the nurse's performance.

#### 5.1.2 Workload Relationship to Nurse Performance

The results showed that of 55 nurses at FMC Bogor Hospital with a moderate workload, 45 (66.9%) performed well, and 10 (33%) performed moderately. %) performed well, and 0.3% was sufficient, while 100% of nurses with light workloads performed well. The



results of the chi-square statistical test gave  $p = > 0.05$ , then  $H_0$  was accepted, and  $H_a$  was rejected; it was concluded that there was no relationship between workload and nurse performance at FMC Bogor Hospital in 2023.

This is not in accordance with Buanawat's (2019) research at RSI Siti Aisyah in Madiun 2019, which found 19 people (47.5%) had a heavy workload and sufficient activity. Based on the results of statistical tests, there is a significant relationship between workload and nurse performance. The results of Febriana & Sanusi's research on the relationship between workload and the performance of midwifery education personnel in the Kudus kingdom environment showed  $r = -0.554$  and  $p = 0.000$ . The heavier the workload, the worse the performance. According to Manuaba, workload is the ability of a worker's body to accept work. The physical and psychological abilities of workers must be appropriate and balanced in every workload received by a person. Workloads include physical workloads and psychological workloads. Physical workloads such as lifting and pushing. Meanwhile, the psychological workload is in the form of the extent to which the level of ability or expertise and achievement that individuals have with other individuals (Ananta., 2021).

The workload of nurses can have an impact on both patients and caregivers. If there is an increase in workload can result in a lack of *caring* behaviour by nurses, this causes nurses to care for patients not comprehensively (bio-psychological-social and spiritual) so that therapeutic communication cannot be applied by nurses, which results in patient satisfaction. Research conducted by Chintya (2018) said the workload of nurses can be influenced by several factors such as age, gender, and education level. The gender factor influences the workload because the body strength possessed by men is greater than that of women.

According to Handarizki's research (2019), nurses can experience a workload when the work capacity to be done exceeds their abilities. When this happens, caregivers can feel work stress as well as physical, social and mental stress. This workload can be influenced by contributing factors such as increased physical workload due to an imbalance between the number of workers and patients per shift, the social workload of nurses due to problems with colleagues in the same room, such as B. Nurses who cannot attend, make shift changes and varied work schedules, and psychological stress due to overload of doctors with intensive monitoring of patients in critical condition and supervision continuously.

According to researchers, the results of a study with a high workload of nurses in FMC hospitals with good nurse performance indicate good regulation or regulation of working or operational hours. This also, according to researchers, can occur because the number of nurses or human resources is adequate and in accordance with the number of patients who come to FMC hospitals so that the high workload does not affect the performance of nurses at FMC hospitals.

### **5.1.3 The Relationship Between Education Level and Nurse Performance**

The results of this bivariate analysis using *chi-square* showed that out of 58 nurses at FMC Bogor Hospital with a D3 Nursing education level, 49 people (84.5%) had good performance, and 9 people (15.5%) had moderate performance. Of the 10 nurses, 8 people (80%) had a good performance, and 2 people (20%) had a moderate performance. While of the 8 people with nurse education level, all (100%) have good performance. The results of the statistical test using *chi-square* obtained a value of  $p = < 0.05$ , so  $H_0$  was rejected, and  $H_a$  was accepted, and it was concluded that there was a relationship between the level of education and the performance of nurses at FMC Bogor Hospital in 2023.

Multivariate analysis with *logistic regression* shows that of the four variables studied, the one that has an influence on nurse performance is the level of education. The D3 Nursing Education Level has a relationship with poor nurse performance with a sig of 0.021 and risk 36 times. For the Education Level (S1 Nursing, compared to the Nursing Education Level, there is no significant risk of poor performance. However, with the D3 Nursing Education Level, there is a significant difference in the performance of nurses with the Nursing Education Level.

This research is in line with Hadinata's (2019) research which states that there is a significant relationship between education ( $p$ -value = 0.004) and education ( $p$ -value = 0.018) with nurse performance at Cideres Hospital, Majalengka Regency in 2018. This research is also in line with Kristiawan's research (2020) that there is a strong correlation between education level and nurse caring behavior in a positive relationship, meaning that the better the level of education, the better the caring behavior of Puskesmas nurses. However, this study is not in line with David's research, which found that education level did not have a significant effect on the efficiency of hospital staff in the field of nursing.

One factor that can increase nursing productivity or efficiency is the nurse's formal education. Education not only provides knowledge directly related to task performance but also a foundation for self-development and the ability to utilize all the space around us for task smoothness (Krisitawan, 2020).

Researchers argue that higher education levels affect skill levels because it is easier to develop nursing knowledge and its application in the workplace and in serving patients and society. Therefore, it is important to improve the level of nurse education, such as D3 graduates to continue S1 nursing education and then continue to Nursing professional education. It is also intended to reduce the risk of decreased efficiency or hospital services. It is worth emphasizing that low education does not mean low knowledge. Knowledge is not only acquired through schooling but through learning from one's own or others' experiences.

### **5.1.3 The Relationship of Work Motivation with Nurse Performance**

The results of this study showed that of the 73 nurses at FMC Bogor Hospital with high work motivation, 64 people (87.6%) had good performance, and 9 people (12.4%) had moderate performance. While 3 nurses who have moderate motivation are obtained, 2 people (66.6%) have medium performance, and 1 person (33.4%) has good performance. The results of the statistical test using *chi-square* obtained a value of  $p = < 0.05$ , so  $H_0$  was rejected,  $H_a$  was accepted, and it was concluded that there was a relationship between work motivation and nurse performance at FMC Bogor Hospital in 2023.

This is also in line with Zainaro's research (2017), entitled the effect of work motivation on the performance of implementing nurses in the inpatient room of Alimuddin Umat Regional General Hospital, West Lampung Regency in 2017, obtained OR = 16,200, which means that respondents with poor work motivation have a chance of 16,200 times having poor performance also compared to respondents with good work motivation (Arifki Zainaro, 2017)

Motivation is a thought or encouragement so that a person can do work and run happily, especially in the character of the nurse. In addition to motivation that grows from one's own awareness, providing motivation from others is also important in increasing motivation (Sinambela, 2021). Work motivation is very important in nursing practice; with high motivation, nurses can have more enthusiasm and are also able to be responsible for all tasks given so that work can be done optimally. According to Rofifah, work motivation is a trigger that can raise a high spirit of interest in work so that someone does his job using the abilities and skills he has in order to obtain good performance. According to (Paradila, 2017)) motivation is the force that causes individuals to act in certain ways. People with high motivation will work harder, while low will be the opposite.

Based on research on nurses at FMC Hospital shows that the work motivation that most nurses have is good motivation, with as many as 73 respondents (96.1%). According to researchers, this high nurse motivation can come from themselves or from leaders in the form of incentives or other rewards from superiors for work results. This good motivation encourages them to actively complete various tasks according to their responsibilities which has implications for the performance of nurses at FMC Hospital.

### **5.2 Research Implications**

This research is expected to have a positive impact on the implementation of nursing at FMC Bogor Hospital, which continues to strive to improve the quality of service to be more optimal. To achieve optimal service, there are various kinds of supporting components in order to carry out the function of the Hospital as a means of care and treatment for the community; one of the supporters is nurses who meet the standard needs. Performance is the result achieved or achievement achieved by employees in carrying out a job in an organization. Performance appraisal is the most trustworthy measurement tool for nurse managers in controlling human resources and productivity. The performance appraisal process can be used effectively in directing employee behavior in order to produce high-quality nursing services. Managers can use the performance appraisal process to set work direction, train, provide career planning guidance, and reward competent nurses. Therefore, it is necessary to know what factors affect the performance of nurses.

In this study, it is known that the factors of Education Level and Work Motvasi are related to nurse performance. In improving the ability of a nurse, it is important to develop her knowledge and skills that are better than before so that they can be applied during service so that the ability to provide services in hospitals is increased and can make performance better. In addition, environmental support, including social support and direction from leaders, also needs to be given regularly. High motivation is needed from every employee to increase hospital productivity. People with high motivation will be encouraged to work harder and be full of enthusiasm. Therefore, motivation is very important as a person's encouragement in producing work both for themselves and others.

### **5.3 Research Limitations**

This study has limitations, including:

1. This study only examined 4 (four) variables that were considered related to independent variables. The theoretical framework shows that there are many other factors related to nurse performance.
2. The collection of independent and dependent variable data by distributing questionnaires tends to be subjective and depends on the honesty of respondents in providing information.

### **6. Conclusion**

Research that has been conducted by distributing questionnaires to 76 nurses at FMC Bogor Hospital on June 8 – June 12, 2023, can be concluded that: The majority of nurses are female (56.75%), aged 26-30 years (60.5%), education level D3 Nursing (76.3%), working period >6 years (60.5%), medium workload (72.4%), high motivation (96.1%), and good performance (85.5%). The results of the bivariate analysis with *chi-square* showed there was no relationship between the length of service and nurse performance (p value = 0.06 > 0.05). The results of the bivariate analysis with *chi-square* showed there was no relationship between workload and nurse performance (p value = 0.312 > 0.05). The results of the bivariate analysis with *chi-square* showed there was a relationship between education level and nurse performance (p value = 0.000 < 0.05). The results of the bivariate analysis with *chi-square* showed there was a relationship between work motivation and nurse performance (p value = 0.009 < 0.05). The results of multivariate analysis with logistic regression showed that the Education Level variable had a significant effect with a p value of 0.021 with a risk of 5.7 times to experience poor performance.

**Funding:** This research received no external funding.

**Conflicts of Interest:** The authors declare no conflict of interest.

**Publisher's Note:** All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

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