Analysis of Factors that Affect Nurse Work Productivity in Hospital Bengkulu

Hermansyah[1], Riyadi A[1] and Delfina R[2]*

[1]Nursing Department, Health Polytechnic Ministry of Health Bengkulu Province, Indonesia

[2]College of Nursing, University of Bengkulu, Indonesia

*Corresponding author: Rina Delfina, Lecture, College of Nursing, University of Bengkulu, Email: rdelfina@unib.ac.id

Abstract

Introduction: The work productivity of nurses in hospital inpatient rooms has not shown good results. Productivity is the goal of every type of organization, including nursing services, with high work productivity of nurses, the services in hospitals will be better and the quality of health services can be improved. There was a decrease in the number of patients being treated, the average monthly patient decreased to 1,348 people with BOR decreased to 47%. This shows a decrease in the utilization of care in hospital Bengkulu. The aim of the present study was to determine the factors that influence the work productivity of nurses in the inpatient ward of hospital Bengkulu

Methods: This type of research is analytic with a cross sectional study design. The sample in this study was the nurse in the inpatient room of hospital Bengkulu, which amounted to 130 people, was taken using the proportional random sampling technique. Data collection using a questionnaire. Data analysis was carried out univariate, bivariate and multivariate with factor analysis.

Results: Findings of the study showed that there were three factors formed from factor analysis, namely work support (37.72%), reward system factors (15.55%), job demands (12.32%), and individual characteristics factors (8.36). %). The dominant factor that affects the work productivity of nurses is the job demand factor (OR: 2,280; 95% CI: 1,123-4.630).

Conclusion: The nursing sector should be able to increase the work productivity of implementing nurses through measuring workload activities by direct observation and distributing nurses according to the workload of each room, as well as providing motivation/spirit, direct direction and supervision to the inpatient room to improve the work ethic of implementing nurse.

Keywords: Factor Analysis; Work Productivity; Implementing Nurses

Introduction

Quality guarantee of health services is a very important and fundamental approach in providing health services to patients [1]. The quality of nursing services is an indicator of health services that can be a determining factor in the image of health service institutions to the community perspective, this happens because nursing is the professional group with the highest population and the closest to the suffering, pain and the misery condition who come to the patient and family. One of the quality indicator of nursing service is whether the nursing services can give satisfying to the patient or not, the

patient as users of nursing service can demanded the nursing service have to suitable with their right. The patient will complain when the nursing service cannot give the satisfying for themselves [2].

According to the health ministry Republic of Indonesia (2017) in 2016 there were 2.045 of general hospitals who increase from 2015 with a total of 1,949 general hospitals. And the health workers, especially nurses, there were 296.876 in 2016. The increase of the number of hospital and the number of nurses, must be in accordance with the improvement the quality of nursing services at the institution.

According to Dewan Penasihat Indonesia Services Dialog (ISD) Mari Elka Pangestu make the noted the number of people who do the medical treatment in abroad increase from 350 thausand in 2006 to 600 thousand people in 2015 [3]. This condition shows that Indonesian hospitals need to improve the quality to increase the number of patient visits to the hospital so that it can decrease the number of Indonesians who go abroad to get the medical treatment.

The Nursing services can be comply the needs of patients and are given quality but are provided using unlimited resources so that these resources cannot be utilized by other patients in need [1]. The quality of nursing services is not something that can meet the needs of patients at maximum cost, but the quality of nursing services must be able to be linked to the efficient use of resources.

One of the indicator of success and quality of nursing services is to look at the work productivity of nurses in the inpatient room and providing nursing care to patients and their families [4]. Productivity is an indicator of efficiency and productivity. A comparison between output and input. Input is often limited by labor, while output is measured in physical unity, form and value [5].

The Productivity is the goal of every type of organization, including nursing services, with high work productivity of nurses, so services in hospitals will be better and quality of health services can be improved. Improved work productivity is shown to increase profits in nursing organizations including to improve the progress of nurses and increase client satisfaction as recipients of nursing services [4].

The work productivity of nurses in hospital inpatients room has not shown good results. Fajariadi research results [4] in Mental Hospital of North Sumatra Province showed 18.3%, and there was a significant relationship between fish and work discipline with the work productivity of implementing nurses.

Minarsi Research Results [5] showed as many as 41 people (54.7%) nurses in non-surgical internal disease had low work productivity and there was a relationship between the workload of nurses and work productivity of nurses in non-surgical internal desease hospital M. Jamil Padang Work productivity is influenced by many factors. According to Sedarmayanti [7] factors that influence work productivity such as work motivation, income level, work environment, achievement opportunities, management and nutritional status. According to Simanjuntak [8] there are several factors that influence the work productivity of employees, namely: training, mental and physical abilities of employees, the relationship between superiors and subordinates. Meanwhile, according to Tiffin and Cormick [9], the factors

that influence work productivity can be concluded into two groups, namely: factors that exist in individuals, Such as age, temperament, individual physical condition, fatigue, and motivation, and factors existing outside the individual, namely: physical conditions such as sound, lighting, rest periods, length of work, wages, form of organization, social environment and family.

In 2016, the number of patients in hospital Bengkuu are 16.297 people, the average monthly patient was 1.358 with 50% BOR. In 2017, the number of patients decreased to 16,183 people, the average monthly patient fell to 1,348 people with BOR dropped to 47%. This shows a decrease in the utilization of care in hospital Bengkulu. Performance and productivity of nurses work is one of the factors causing the decline in the use of the hospital in addition to other factors such as a tiered referral system BPJS Health to health facilities.

The performance of nurses in hospital Bengkulu has not shown good results. Hidayah Research [10] shows that almost half (40.5%) of the nurses in the C2 Melati Inpatient Room performed badly. Hermansyah's research results [11] showed that 25.9% of the nurses performed poorly in Dr. M. Yunus Bengkulu. Syafriyani's research results [12] outside the hospital Bengkulu showed that almost half (47.5%) nurses were not good in using the nursing process.

The results of Yusuarsono's research (2014), showed that nurses' services in the Internal Medicine Poly Room of M. Yunus General Hospital Bengkulu were of poor quality. Nurses do not maintain neatness, appearance cleanliness in providing nurses do not maintain neatness, cleanliness in appearance in providing nursing services to patients, do not help patients want to be treated, it is difficult to be contacted, so patients who receive nursing services are less qualified, and nurses who practice, so they have not experienced in serving, coupled with the large number of patients who need maximum service. The results of this study indicate the work productivity of nurses has not been maximized so that it has not been able to provide good service quality.

The results of researchers did through interviews with 7 patients in the inpatient hospital Dr. M. Yunus Bengkulu. 5 from 7 patients said they were not satisfied with the service and performance of nurses, nurses rarely visited patients, and nursing actions were often carried out by students.

The results of interviews with 6 nurses, found five nurses said morale decreased so that work productivity also decreased in providing services to patients. From the six nurses, there were four nurses who said there were no proportional rewards for the results of the implementation of nursing care, include in the provision of services and the proposed study

assignments funded by the hospital, equated to all nurses according to length of work or seniority regardless of the nurse which performance is really good, so that will decrease the enthusiasm and work productivity. This study aims to analyze the factors that influence the work productivity of nurses in hospital Bengkulu.

Research Methodology

This research uses a cross-sectional design. The research population was all nurses in hospital Bengkulu in 2018, amounting to 240 nurses. The research sample consisted of 130 nurses who were taken with the Proportional Random Sampling technique.

Data collection was carried our using a questionnaire to consisting of 26 statements to measure work productivity, 13

statements for motivation, 14 statements for management, 13 statements for the work environment, 8 statements for achievement opportunities, 19 statements for climate, 5 statements for income, 8 statements. For workload, 12 statements for work ethic, and 11 statements for discipline using a scale rating of 0-10.

Data analysis was performed by univariate, bivariate analysis using the Spearman Rank correlation test at a significance level of α 5%, and mutivariate analysis is carried out by factor analysis and multiple logistic regression analysis prediction modeling conducted on independent variables (age, education, training, length of work, motivation, management, work environment, opportunity for achievement, work climate, income, workload, work ethic, and work discipline) that affect the work productivity of nurses.

Results

Variable	N	Mean	Median	SD	Min – Max	95% CI
Age	130	35,68	36	4,956	24-52	35,68-34,82
Education	130	4,3	5	0,945	3-5	4,14-4,46
Length of work	130	10,86	10	4,345	3-30	10,11-11,62
Training	130	27,43	0	1,17,251	0-960	7,08-47,78
Motivation	130	94,12	96,5	20,052	29-136	90,64-97,6
Management	130	120,04	125	24,523	16-231	115,78-124,29

Table 1: Distribution of Respondents based on Age, Education, Length of Work Training, Motivation, and Management in hospital Bengkulu year 2018.

(Table 1) The average motivation score of respondents was 94.12 with a standard deviation of 20.052. From the interval estimation results it was concluded that 95% believed the average score of respondents' motivation was between 90.64-97.6. The average respondent management score is 120.04 with a standard deviation of 24.523. From the interval estimation results it was concluded that 95%

believed the average score of respondents' motivation was between 115.78-124.29.

External factors that affect work productivity will be presented as follows: work environment, achievement opportunities, work climate, income, workload, work ethic, and work discipline.

Variable	N	Mean	Median	SD	Min – Max	95% CI
Work Environment	130	109,58	113	18,3	32-130	106,4-112,75
Opportunities for achievement	130	43,75	49	19,483	0-80	40,37-47,13
work climate	130	152,37	158,5	24,701	26-190	148,08-156,66
Income	130	32,39	33	11,701	0-50	30,36-34,42
Workload	130	57,2	59	15,057	Dec-80	54,59-59,81
Work Ethos	130	93,7	91	16,14	28-120	90,9-96,5
Work Discipline	130	80,78	81,5	13,728	14-100	78,4-83,17

Table 2: Distribution of Respondents by Work Environment, Opportunities for Achievement, Work Climate, Income, Workload, Work Ethos, and Work Discipline in hospital Bengkulu year 2018.

Table 2 shows that the average score of respondents' work environment was 109.58 with a standard deviation of

18.3. From the interval estimation results it was concluded that 95% believed the average score of respondents' work

environment was between 106.4-112.

Nurse work productivity at hospital Bengkulu will be presented in table 3.

Variable	N	Mean	Median	SD	Min –	95% CI
Work Productivity	130	184,13	180	20,230	133-265	180,62-

Table 3: Distribution of Respondents Based on Work Productivity.

Table 3 shows that the average work productivity score of the respondents was 184,13 with a standard deviation of 20,230. From the interval estimation results it was concluded that 95% believed the average score of respondents' work productivity was between 180.62-187.64.

Variable	r	*p* value
Age	-0,094	0,290
Education	0,023	0,793
Length Of Work	-0,115	0,194
Training	0,049	0,577
Motivation	0,092	0,297
Management	0,345	0,000
Work Environment	0,118	0,183
Opportunities for achievement	0,125	0,156
Work Climate	0,232	0,008
Income	0,129	0,142
Workload	0,378	0,000
Work Ethos	0,512	0,000
Work Disclipne	0,473	0,000

Table 4: The Relationship of Age, Education, Training, Length of Work, Motivation, Management, Work Environment, Opportunity for Achievement, Work Climate, Income, Workload, Work Ethic, and Work Discipline with the Nurse's Work Productivity.

The Analysis result of table 4 Show that the relationship between work environment and nurse work productivity showed a very weak relationship (r = 0.118). Statistical test results also showed a significant relationship between work environment and nurse work productivity (p = 0.183). The relationship between opportunities for achievement with nurse work productivity shows a very weak relationship (r = 0.125). Statistical test also showed a significant relationship between opportunity for achievement and nurse work productivity (p = 0.156). he relationship between work climate and nurse work productivity shows a weak relationship (r = 0.232). Statistical test results also showed a significant relationship between work climate and nurse work productivity (p = 0.008).

The relationship between income and work productivity of nurses showed a very weak relationship (r = 0.129). Statistical

test also showed a significant relationship between income and nurse work productivity (p = 0.142). The relationship between workload and nurse work productivity shows a weak relationship (r = 0.378). Statistical test results also showed a significant relationship between workload and nurse work productivity (p = 0,000). Statistical test results also showed a significant relationship between work ethos and nurse work productivity (p = 0,000).

Multivariate Analysis

Multivariate analysis use the factor analysis of the independent variables (age, education, training, length, of work, motivation, management, work environment, opportunity for achievement, work climate, income, workload, work ethic, and work discipline) that affect nurse work productivity. Through this factor analysis expected to produce one or several sets of variables that are fewer than the number of previous variables after analysis. The results of the factor analysis are as follows:

Correlation Test and Variable Feasibility

The first stage of factor analysis is to assess variables that are considered appropriate to be included in the next analysis. This analysis is done by entering all variables. At this stage also tested the correlation of variables that exist using the Bartlett Test and the Kaiser Meyer Olkin Measure of Sampling Adequacy (MSA). Bartlett test and MSA test carried out to assess the feasibility of a variable to be analyzed using factor analysis. Bartlett test carried out to test the correlation between variables because the desired result in factor analysis is a high correlation between variables. The correlation will be high if the Bartlett test p value <0.05 so that the process can proceed.

MSA test is a test used to measure homogeneity between variables and filtering between variables so that only variables that meet the requirements can be further processed, namely variables with an MSA value of 0.5 - 1.0. MSA value = 1, meaning that the variable can be predicted without error by other variables. MSA value = 0.5 means that the variable can be predicted and can be further analyzed. MSA value <0.5, meaning that the variable cannot be predicted and cannot be further analyzed, or excluded from other variables [13].

Kaiser Meyer Olkin Measure of Sampling Adequancy (MSA)	Bartleet's Test of Sphericity		
	X2	df	p
0,775	7,66,549	78	0,000

Table 5: KMO and Bartlett Test Results in the First Step Analysis of Factors that Influence the Productivity of Nurses at hospital Bengkulu year 2018.

The results of the analysis in table 5. Showed that the KMO value = 0.775> 0.5 and the Bartlett test with a value of p = 0.000 <0.05 means the variables are correlated and can be processed further. The MSA value can be seen in the anti-image correlation matrix value. If there is a MSA value of initial variables less than 0.5, one must be excluded from the analysis, sorted from the variables that have the smallest MSA value and the test is repeated [13].

MSA value of the variables that affect the work productivity of nurses in hospital Bengkulu is age: 0.507, education: 0.649, training: 0.455, length of work: 0.501, motivation: 0.818, management: 0.866, work environment: 0.853, opportunity for achievement: 0.618, work climate: 0.868, income: 0.801, workload: 0.728, work ethic: 0.813, and work discipline 0.850. MSA value of the training variable = 0.455 <0.5, then the research variables were excluded from the analysis.

Kaiser Meyer Olkin Measure of Sampling Adequancy (MSA)	Bartleet's Test of Sphericity		
	X2	df	p
0,779	7,60,229	66	0,000

Table 6: KMO and Bartlett Test Results in the Final Step Analysis of Factors that Influence to the Productivity of Nurses at hospital Bengkulu year 2018

The results of the analysis show the value of KMO = 0.779> 0.5 and the Bartlett test with value of p = 0.000 <0.05 means that the variables are correlated and can be processed further.

Variable	MSA Value
Age	0.513
Education	0,658
Length of working	0,507
Motivation	0,818
Management	0,865
Work environment	0,853
Opportunity for achievement	0,616
Work climate	0,867
Income	0,801
Workload	0,727
Work ethos	0,818
Work discipline	0,856

Table 7: The Values of Measure of Sampling Adequacy (MSA) Variables in the Final Step Analysis of Factors that Influence to the Productivity at hospital Bengkulu year 2018.

Based on table 7 the value of MSA variables that affect to the work productivity of nurses in the inpatient hospital Bengkulu> 0.5, then there are nothing the variables that are excluded from the analysis and can be further processed.

Factor and Rotation

The next step of factor analysis is factoring / extraction of variables, so that one or more factors are formed. After one or more factors are formed, with a factor containing a number of variables, where there is a possibility that one of the variables is difficult to determine which factor will be included or if the factor formed by the factoring process is only one factor, then to overcome this rotation process carried out the factors formed to clarify the position of a variable. The method used is Principal Components Analysis (PCA) and the rotation process [13].

Variable	Extraction
Age	0,832
Education	0,264
Length of working	0,784
Motivation	0,846
Management	0,825
Work environment	0,721
Opportunity for achievement	0,843
Work climate	0,783
Income	0,813
Workload	0,826
Work ethos	0,715
Work discipline	0,624

Table 8: Contribution of Extraction Results to Analysis of Factors that Influence the Productivity of Nurses at hospital Bengkulu year 2018.

(Table 8) the contribution of extraction results variable shows the value of the variable to the formed factor. The greater the contribution of a variable, the more closely related to the factors formed. The age variable has a number of 0.832, this means that about 83.2% of the variance of the age variable can be explained by the factors formed. Likewise, so on with other variables. Furthermore, from Table 5.8 will show more specific extraction results using the Principal Components Analysis (PCA) method seen at the Eigenvalue greater than or equal to 1.0. The specific results of PCA extraction will show in Table 9. The results of PCA extraction are as follows:

Factor	Initial Eigenvalues		
	Total	% Variant	% Cumulative
Age	4,527	37,728	37,728
Education	1,867	15,555	53,283
Length of working	1,479	12,324	65,607
Motivation	1,003	8,360	73,967
Management	0,888	7,399	81,366
Work environment	0,630	5,247	86,612
Opportunity for achievement	0,366	3,051	89,663
Work climate	0,332	2,765	92,428
Income	0,265	2,211	94,639
Workload	0,237	1,979	96,618
Work ethos	0,220	1,834	98,452
Work discipline	0,186	1,548	1,00,000

Table 9: PCA Extraction Results in Analysis of Factors that Influence the Productivity of Nurses.

In Table 9 PCA Extraction results is tables of the results of extraction of a number of variables that affect the productivity of nurses' work in hospital inpatient room. The total variables that have correlations are 12 variables. Each variable has a variance of 1 so that the total of all variances is 12. If the 12 variables are summarized into one factor, the variance that can be explained by one of these factors is 4,527 / 12 x 100% = 37,728%.

The number of eigenvalues for the twelve variables is equal to the total of all variances, namely: 4,527 + 1,867 + 1,479 + 1,003 + 0,888 + 0,630 + 0,366 + 0,332 + 0,265 + 0,237 + 0,220 + 0,186 = 12. The number of eigenvalues is always sorted from the largest to the smallest with the criterion that the number of eigenvalues below 1 is not used in calculating the number of factors formed. From table 5.9 based on eigenvalues ≥ 1, it can be seen that there are four factors that are formed with eigenvalues: 4,527, 1,867, 1,479, and 1,003 [13].

Furthermore, after four factors are formed, the distribution of the variables in the four factors is as follows.

Variable	Component			
	1	2	3	4
Age	0,058	0,899	0,122	-0,069
Education	0,123	0,428	0,238	0,095
Length of working	- 0,052	0,849	0,230	-0,086
Motivation	0,776	0,006	-0,364	-0,333
Management	0,816	-0,099	-0,010	-0,385
Work Environment	0,799	-0,007	0,070	-0,279
Opportunity for Achievement	0,473	0,233	-0,730	0,180
Work climate	0,861	0,109	-0,115	0,131
Income	0,638	0,129	-0,291	0,552
Workload	0,588	-0,141	0,471	0,489
Work ethos	0,672	-0,183	0,466	0,112
Work Discipline	0,656	-0,090	0,383	-0,198

Table 10: Component Matrix Before Rotation in Analysis of Factors that Influence the Productivity of Nurses.

Table 10 shows the magnitude the correlation of the variables on the four factors formed (regardless of the value - and +). The age variable entered into component factor 2 because it has the highest loading factor number in component number 2 which is 0.899. Therefore, there are still variables which not clear yet to include in one of the factors such as the workload variable which has a correlation number of 0.588 at factor 1, 0.471 at factor 3 and 0.489 at factor 4, so the rotation process is necessary.

The results of rotation of 12 variables can be seen in the component matrix in table 11 which shows a clearer and more obvious variable distribution.

Variable	Component			
	1	2	3	4
Age	0,036	0,097	-0,110	0,900
Education	0,009	0,026	0,181	0,480
Length of working	-0,032	-0,049	-0,092	0,878
Motivation	0,801	0,443	-0,068	-0,057
Management	0,876	0,163	0,169	-0,050
Work environment	0,790	0,171	0,256	0,057
Opportunity for achievement	0,222	0,869	-0,193	0,024
Work climate	0,563	0,559	0,378	0,102
Income	0,118	0,798	0,400	0,047
Workload	0,146	0,147	0,885	0,011
Work ethos	0,456	-0,009	0,712	-0,015
Work discipline	0,637	-0,092	0,454	0,059

Table 11: The Component Matrix After Rotation in Analysis of Factors that Influence the Productivity of Nurses in hospital Bengkulu.

The results of rotation in table 11 indicate that they already have a group of factors, namely:
1. Factor 1 consists of 5 development variables, namely motivation (0.801), management (0.876), work environment (0.790), work climate (0.563), and work discipline (0.637). Factor 1 is named the **Work Support Factor**

Equation for factor 1: 0,801 Motivation + 0,876 Management + 0.790 work environment + 0.563 work climate + 0.637 work discipline
2. Factor 2 consists of 2 forming variables, namely opportunity for achievement (0.869) and income (0.798). Factor 2 is named the Reward System Factor.

Equation for factor 2: 0.869 chance of achievement + 0.798 income
3. Factor 3 consists of 2 development variables, namely workload (0.885) and work ethic (0.712). Factor 3 is named the Occupational Factor.

Equation for factor 3: 0.885 workload + 0.712 and work ethos.
4. Factor 4 consists of 3 development variables, namely age (0.900), education (0.480), and length of work (0.878). Factor 4 is named the Individual Characteristic Factor.

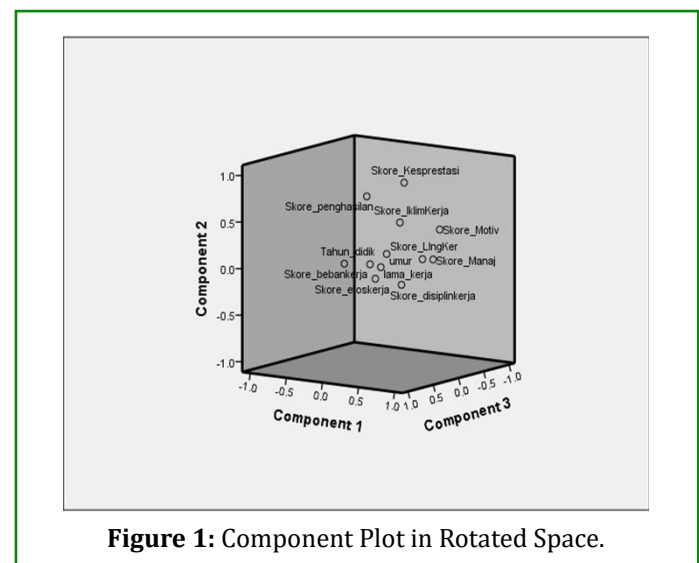Equation for factor 4: 0,900 age + 0,480 education + 0,878 Length of working.

Figure 1: Component Plot in Rotated Space.

Figure 1 shows a picture of the twelve variables of all four factors. This picture is a media to clarify the location of a variable in a factor.

Factor Validation

Variable	Component			
	1	2	3	4
Age	0,010	0,844	0,354	-0,051
Education	0,135	0,302	0,408	0,759
Length of working	-0,163	0,689	0,514	-0,298
Motivation	0,840	0,105	- 0,230	0,270
Management	0,903	-0,110	0,054	0,147
Work environment	0,816	- 0,019	0,090	- 0,062
Opportunity for achievement	0,369	0,570	- 0,634	0,136
Work climate	0,881	0,164	- 0,111	- 0,063
Income	0,610	0,460	- 0,322	- 0,304
Workload	0,735	- 0,204	0,228	- 0,374
Work ethos	0,729	- 0,288	0,386	- 0,091
Work discipline	0,746	- 0,249	0,236	0,097

Table 12: The Component Matrix sample no. 1-65 Analysis of Factors that Influence the Productivity of Nurses in hospital Bengkulu year 2018

Variable	Component			
	1	2	3	4
Age	0,093	0,817	-0,405	0,105
Education	0,032	0,519	0,309	0,434
Length of working	0,084	0,812	-0,374	0,02
Motivation	0,726	-0,26	-0,419	0,12
Management	0,649	-0,18	-0,348	-0,147
Work environment	0,74	-0,017	-0,18	-0,165
Opportunity for Achievement	0,662	-0,247	-0,088	0,504
Work climate	0,794	0,101	0,053	0,249
Income	0,674	-0,081	0,443	0,182
Workload	0,244	0,322	0,756	0,014
Work ethos	0,571	0,139	0,425	-0,373
Work discipline	0,532	0,257	0,024	-0,638

Table 13: Component Matrix sample no. 66-130 Analysis of Factors that Influence the Productivity of Nurses in the Inpatient Room hospital Bengkulu year 2018.

Variable	B	P *wald*	OR	95% CI
Occupational demands Factors	0,824	0,023	2,280	1,123-4,630
Constant	-0,670			

-2 Log likelihood: 172,925G: 5,319 pvalue= 0,021

Table 14: The Final Results of the Multiple Logistic Regression Test Modeling Prediction between Independent Variables (Work Support Factors, Reward System Factors, Occupational demands Factors and Individual Characteristics Factors) with Nurse Work Productivity in hospital Bengkulu year 2018.

Based on table 14 showed that the factors that influence the work productivity of implementing nurses in hospital Bengkulu is a factor in occupation demands. The OR value of the occupational demands factor is 2,280 (95% CI: 1,123-4,630), which means the odds of respondents with low perceptions about the factors of occupational demands for doing low work productivity are 2,280 times the odds of nurses who have high perceptions about occupational demands factors, or nurses who having a low perception of occupational demands is 2,280 times as likely to have low work productivity compared to nurses who have a high perception of occupational demands.

Discussion

The Productivity of the Nurses in the Inpatient Room

Productivity is a measure of efficiency and productivity, that is, between output and input. Renewed with labor, while issued in physical ties, form and value [5].

The average productivity score is above the middle value of the total productivity score of 130, it is mean that the productivity of nurses' work in hospital considered good. Productivity is the goal of every type of organization, including nursing services, with high work productivity of nurses, then the service in hospitals will be better and the quality of health services can be improved. Improvement work productivity is shown to increase profits in nursing organizations, including being able to improve the progress of nurses and increase client satisfaction as recipients of nursing services [4].

Hasibuan [14], generally states that productivity is defined as a comparison between outputs and inputs. Gibson [15], states that productivity reflects the ability to produce the number and quality of outputs needed with the benefits, the success of good service, increased activity and the presence of feedback.

Factors that Influence the Nurse's Work Productivity

Age
The results of this research is not suitable with the opinion of Ilyas [16] that age is one of the personnel factors that influence work productivity. Thus according to Robbins [17] that there is a belief that productivity will decline with one's aging. This is often associated with an individual's skills, especially speed, dexterity, strength and coordination will decrease with the passage of time.

The results of this research suitable with the research of Priyanto (2014) [18], that age has a significant influence on employee work productivity (p = 0.049). According to

Simanjuntak [8] that work performance increases with age, then decreases towards old age and the highest productivity is at the age of 35-39 years. In addition, the bored factor in work who monotonous and the lack of intellectual stimulation will be able to contribute to reduced productivity. According to Siagian [9], another factor that can influences work productivity is maturity (age), technical and psychological maturity can create they are able to make wise decisions.

Education
According to Sikula in Mangkunegaran (2004) that the level of education is a long-term process that uses a systematic and organized process, where managerial staff learns conceptual and theoretical knowledge for one's educational goals. Employees can increase company competitiveness and improve company performance.

The results of this research show that the average length of education of respondents was 4.3 years with a standard deviation of 0.945 years. The relationship between education and work productivity of nurses showed a very weak relationship (r = 0.023). The Statistical test results also show that there is nothing significant relationship between education and nurse work productivity (p = 0.793). The results of this research it is not suitable with the opinion of Siagian [9] who states that the higher a person's education, the greater their desire to utilize their knowledge and skill they have. The results of this research suitable with the research of Fajariadi [4], which show that the majority of nurses with a Bachelor's Degree in Nursing with 4-5 years of education (63.3%).

According to Sikula in Mangkunegaran (2004) that the level of education is a long-term process that uses.

Length of Working
The results of this research suitable with the opinion of Robbins [17], who states that seniority is not a good predictor of productivity. Several research about relationship between seniority and productivity show that there is no strong evidence that people who have long been in a job will be more productive than those with lower seniority. The results of this research it is not suitable with the opinion of Siagian [9], where the length of working will affect the someone experience, the longer of will create more experience so that work productivity can increase.

Training
Training is part of the education process to gain the knowledge and skills [18]. According to Eric [20] training is a short-term educational process that uses systematic and organized procedures so that non-managerial personnel can learn knowledge and technical skills for specific goals. This is suitable with what was stated by Rivai, [21] that "job training

for employees goal at the evaluation and development process to achieve employee self-assessment".

The results of this research suitable with the research of Priyanto [17], that training not give significant influence to employee productivity (p = 0.119). But this is not suitable with research of Putri, et al. [22] showed that training is related to the work productivity of nurses in hospitals (p = 0.006).

Motivation

The factors that cause someone to work is motivation. Motivation is a concept used to describe the extrinsic conditions that stimulate behavior and the intrinsic response shown in behaviour [23].

The result of this research show that the average score of motivation of respondents was 94.12 with a standard deviation of 20.052. The relationship between motivation and nurse work productivity shows a very weak relationship (r = 0.092). Statistical test results also show that there is nothing significant relationship between motivation and nurse work productivity (p = 0.297). The results of this research suitable with Hallatu's [24] research, that there is influence between intrinsic motivation and extrinsic motivation to nurse work productivity (p = 0,000). Then, the research of Putri, et al. [22] shows that motivation is related to the work productivity of nurses in the hospital (p = 0.039), research also shows that motivation is related to the work productivity of nurses in hospitals (p = 0.025). According to Gibson [15] motivation is a psychological process that reflects the interaction between attitudes, needs, perceptions and decisions that occur in a someone (intrinsic) in the form of personality, attitudes, experience, education, expectations and others and is caused by factors external self (extrinsic) in the form of the influence of leaders and other factors that are very complex.

Management

Productivity is related to environmental factors, personal factors, organizational factors, and management factors. Thus, the performance of a person processes very dynamically in an individual and is influenced by internal and external factors where the individual High performance of employees can be achieved by harmonizing the criteria and requirements for all staff, developing learning organizations [16], designing jobs to fully utilize the skills and abilities to provide information on performance and prospects for the organization, using internal promotion if possible, using job security policies and using merit elements in wages staff [25].

The results of this research show that the average score of respondents' management was 120.04 with a standard deviation of 24.523. The relationship between management and nurse work productivity shows a weak relationship (r = 0.345). Statistical test results also showed a significant relationship between management and nurse work productivity (p = 0,000). The results of this research is supported by research of Pangemanan, et al. [26] that there is a significant relationship between time management and the work productivity of implementing nurses (p = 0.004). Then, Susanti's research [27] shows that management is related to the work productivity of nurses in hospitals (p = 0.001). But this is not suitable with research of Putri, et al. [22] where states that management is not have related to the work productivity of nurses in the hospital (p = 1,000).

Work Environment

According to Gibson (1998), work environment is a set of traits that are felt directly or indirectly by worker, and have a major influence on their behaviour in the job. The results of this research show that the average score of the respondent's work environment was 109.58 with a standard deviation of 18.3. the relationship between work environment with nurse work productivity shows a very weak relationship (r= 0.118). Statistical test results also show that nothing significant relationship between work environment and nurse work productivity (p = 0.183).

The results of this research suitable with research of Susanti [27] where states that the work environment is not related to the work productivity of nurses in hospitals (p = 0.091). But, the results of this research is not suitable o with the research of Maimun and Aryani [28] where states that there is a significant relationship between work environment and nurse work productivity (p = 0.005).

According to Wirawan (2007) the work environment is a perception of members organization (individually or in groups) and those who are appropriately related to the organization (eg suppliers, consumers, consultants, and contractors) about what is or happens in the organization's internal environment routinely which influences the attitude and behavior of the organization and the organizational manager who then determine the organization's performance.

Opportunity for achievement

According to Herzberg, if employees have a positive perception of their work assignments, the level of satisfaction is usually high and it is better than when employees view work assignments negatively so the level of satisfaction is also low [9].

The results of this research suitable with research of Susanti's [28] show that the opportunity for achievement is related to the work productivity of nurses in hospitals (p = 0.006).

The results of this research suitable with the opinion

of Sedamayanti [7], who states that if opportunities for achievement is open, will cause psychological encouragement to improve work productivity. Employees who work certainly expect an increase in self-potential, if there is an opportunity to present it will increase productivity.

Work Climate

The results of this research suitable with the research of Putri, et al [22] show that work climate is related to the work productivity of nurses in hospitals (p = 0.012). But it is not supported by Fajariadi's research [4] which shows there is no significant relationship between work climate and work productivity (p = 0.382).

Work climate is related with the environment that exists or is faced by humans who are in an organization that affects someone who is doing a job or job. Marquis and Huston who states that in an effort to empower nursing staff, organizational aspects needed were philosophical, organizational structure, responsibilities, cooperative or coordinating relationships, performance standards and nurse autonomy. If these aspects not good enough attention, it will create not condusive conditions [29].

Income

The income level is anything that employees receive as a reward for their work. Therefore, if employees have perception their salary as inadequate, their work performance, motivation and job satisfaction can drop dramatically [30]. If the level of income is adequate, it can create concentration of work and capabilities that can be used to increase productivity. The level of income is the level of income obtained by each individual as a reward who obtained from economic activities carried out by these individuals [30].

Workload

Workload is an effort to specify the components and target work volume in a time unit and output unit [14]. Marquish [32] define that the workload of nurses is all activities or activities carried out by a nurse while working in a nursing service unit. Work load is usually interpreted as patient days which refers to the number of procedures, examinations, visits (visite) to patients, injections and so on.

The result of this research show that the average score of respondents' workload was 57.2 with a standard deviation of 15.057. The relationship between workload and nurse work productivity shows a weak relationship (r = 0.378). Statistical test results also showed a significant relationship between workload and nurse work productivity (p = 0,000). The result of this research suitable with the research of Minarsi [6] who states that there is a relationship between

nurses workload and nurse work of productivity.

Munandar [33] said that excessive workloads and too little workload it will be stressors. Workloads can be further distinguished in quantitative / excessive workloads, arising from tasks that are too much / too little given to the workforce to be completed within a certain period of time. Workload is excessive / too little qualitatively, i.e. if people are unable to perform a task or the task does not use the skills and / or potential of the workforce. In addition, excessive workload quantitative and qualitative workloads can lead the need to work for very many hours, which is an additional source of stress.

Gillies [34] states that to estimate the nurse's workload on a unit, managers must collect data about: the number of patients entering the unit every day / month / year, the condition or level of patient dependence, in that unit, on average patient care day, type of nursing action required by the patient, frequency of each nursing action needed by the patient, average time required to provide nursing action. Initially the number of patients was used as a reference to determine the nurse's workload. This method is very weak because it is not consider the patient's condition. Furthermore, developing based on disease diagnosis, even this method has not been able to describe the workload properly because it is not consider difference in age, sex, social background, personality and previous health status that affect the patient's response to the disease and its treatment [34].

Work Ethos

According to Damayanti [35], work ethos is all good habits based on ethics that must be carried out in the workplace. The work ethic in the organization includes motivations, main characteristics, basic spirit, work ethos and nurse work productivity (p= 0,000) basic thoughts, code of ethics, moral code, code of conduct, attitudes, aspirations, beliefs, principles and standards that become the basis for behavior and values adopted by human individuals in their organizations or social contexts.

The results of this research suitable with the opinion of Priyanto [36] that work ethos is an important part of human success, include in a limited work community, and in the wider social environment. With high work ethos the company or organization will be able to increase productivity as expected. Improving the work ethos in the organization is the duty and responsibility of all layers, especially leaders in fostering and guiding subordinates. so that they can work properly and correctly in accordance with their respective duties and functions. With a good work ethos it will create a conducive work atmosphere that will support the implementation of

good tasks and provide a high level of productivity.

Work Discipline
According to Sastrohadiwiryo [37], work discipline can be defined as an attitude of respect, obedience to the applicable regulations, written and unwritten and able to carry it out and not avoid taking sanctions if it violates the duties and authority given to them.

The result of this research suitable with the research of Fajariadi [4] where show that there is nothing significant relationship between work discipline and work productivity (p = 0.005).

The results of this research suitable with the opinion of Ilyas [16] who suggests that one of the decreases in company productivity is caused by the work behavior of employees who lack discipline, which is shown by the behavior of employees who often skip classes, fall asleep when working, or go home. Work discipline is one of the regulation (at school, in the office, military), obedience (adherence) [38].

Analysis the Factors who Affect Nurse Work

Based on the result of the factor and rotation there are three factors who had formed. These three factors affect the work productivity of nurses in hospital inpatient rooms, namely work support factors, reward system factors, job demands, and individual characteristics.

First Factor (Work Support Factor)
The management variable has the highest factor loading value of 0.876 which indicates that management greatly influences the work productivity of nurses in the inpatient room of the hospital. The second biggest variable is motivation that has a factor loading value of 0.801. The third variable is the work environment with a factor loading value of 0.790. The fourth variable is the work climate with a factor loading value of 0.563. The fifth variable is work discipline with a factor loading value of 0.637.

Second Factor (Reward System Factor)
Opportunity for achievement variable has the highest factor loading value of 0.869 which indicates that the opportunity for achievement greatly affects the work productivity of nurses in hospital hospitalizations. The second largest variable is income which has a factor loading value of 0.798.

Third Factor (Job Demand Factor)
Workload variable has the highest factor loading value of 0.885 which indicates that workload greatly affects the work productivity of nurses in hospital hospitalizations. The second largest variable is the work ethic with a factor loading value of 0.712 [39-44].

Fourth Factor (Individual Characteristics Factor)
The factor loading values of variables in individual characteristic factors is in the range of 0.48 to 0.90. The age variable has the highest factor loading value of 0.90, which indicates that age greatly affects the work productivity of nurses in hospital hospitalizations. The second largest variable is the length of work which has a factor loading value of 0.87. The third variable is education which has a factor loading value of 0.48.

The most influential factor to the work productivity of implementing nurse in the inpatient room of hospital Bengkulu is job demand factor. The OR value of the job demands factor is 2,280 (95% CI: 1,123-4,630), which means that the odds of respondents with low perceptions about work demand factors for doing low work productivity is 2,280 times the odds of nurses who have high perceptions about job demands factors. The leader of the room is expected to increase the variables contained in these factors, namely workload and work ethic [45-51].

Conclusion

1. The average age of nurse is 35.68 years with a standard deviation of 4.956 years. The average length of education of nurses is 4.3 years with a standard deviation of 0.945 years. The average length of work of nurses is 10.86 years with a standard deviation of 4.345 years. The average duration of nurse training was 27.43 hours with a standard deviation of 117.251 hours. The average nurse motivation score was 94.12 with a standard deviation of 20.052. The average nurse management score is 120.04 with a standard deviation of 24.523.
2. The average score of the nurse work environment is 109.58 with a standard deviation of 18.3. The average score nurse opportunities for achievement is 43.75 with a standard deviation of 19.483. The average score of nurse work climate is 152.37 with a standard deviation of 24.701. The average nurse income score is 32.39 with a standard deviation of 11.701. The average score of nurse workload is 57.2 with a standard deviation of 15.057. The average score of nurse work ethos was 93.7 with a standard deviation of 16,140. The average score of nurse work discipline is 80.78 with a standard deviation of 13.728.
3. The average work productivity score of nurse is 184.13 with a standard deviation of 20.230.
4. There is nothing significant relationship between age and nurse work productivity (p = 0.290), there is nothing significant relationship between education and nurse work productivity (p = 0.793), there is nothing significant relationship between training and work productivity nurses (p = 0.577), there is nothing significant relationship between length of working with

nurse work productivity (p = 0.194), there is nothing significant relationship between motivation and nurse work productivity (p = 0.297), there is a significant relationship between management and nurse work productivity (p = 0,000), there is nothing significant relationship between work environment and nurse work productivity (p = 0.183), there is nothing significant relationship between opportunities for achievement and nurse work productivity (p = 0.156), there is a significant relationship between work climate and nurse work productivity (p = 0.008), there is nothing significant relationship between income and work productivity nurse (p = 0.142, there is a significant relationship between workload and nurse work productivity (p = 0,000), there is a significant relationship between work ethos and nurse work productivity (p = 0,000), and there is a significant relationship between work discipline and nurse work productivity (p = 0,000).

5. There are four factors who affect the work productivity of nurse in hospital in the inpatient rooms, namely: work support factors (37.72%), reward system factors (15.55%), job recruitment factors (12.32%), and individual character-factors (8.36%).

6. The most influential factor to the work productivity of implementing nurses in the inpatient room of hospital Bengkulu is job demand factor (OR = 2,280 (95% CI: 1,123-4,630)).

It is recommended to the hospital Bengkulu:

a. The sector of nursing can be taken by the leader of the room to attend training on room management, work, workload, work ethos and work discipline in order to make changes and increase these variables in hospitalization, increase the work productivity of nurse in the inpatient room.

b. The sector of nursing should improve the conditions of the most dominant factors who affecting nurse work productivity, namely the job demands consisting of workload variables and work ethos in order to increase the work productivity of implementing nurses, through workload measurement activities with direct observation and distributing nurses suitable with their workload each room. This is will give the motivation / spirit, directing and direct supervision to the inpatient room to improve the work ethos of implementing nurses.

c. The sector of nursing should make the regulation that each leader of the room have to make arrangements and increase management activities in the inpatient room includes: planning, organizing, directing, and controlling, so as to increase the work productivity of nurses.

d. Conduct an assessment of the work productivity of implementing nurses by incorporating aspects of the assessment in the nurse work productivity assessment questionnaire, which is integrated with aspects of performance assessment at hospital Bengkulu.

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