



The Effect of Stress and Workload on Near Miss / KNC Events and Their Impacts on Nurse's Performance Inpatient Installation

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Abstract

The role of nurses is huge in conducting nursing care under the existing Standard Operational Procedure (SPO). If it complies with the established standards, then the incident almost injured or even the KNC did not occur. Job stress can occur in nursing care for patients. Workloads which include quantitative workloads, qualitative workloads, physical workloads, psychological workloads, social workloads. This study aims to determine the effect of work stress on nurses' workload on the incidence of near injury / KNC and its impact on the performance of nurse's inpatient installations. This type of research is quantitative research with a cross-sectional approach. The population is all nurses in the Inpatient Services at Kumala Siwi Kudus General Hospital. Sample 68 nurses, using total sampling. This type of research is quantitative research with a cross-sectional approach. Based on the data processing that has done, the results can be used to answer the hypothesis in this study. Hypothesis testing in this study was conducted by looking at the value of T-Statistics and the value of P-Values. The research hypothesis can be accepted if the P-Values value < 0.05 . Hypothesis 1: Near Miss, Events Affecting Performance P Values 0.009 results are acceptable; Hypothesis 2 Stress affecting Near Miss Events/KNC P values result in 0.008. Hypothesis 3 Stress affecting performance P values 0,035 are acceptable.

Keywords: Stress nurses; Nurse's workload; Near miss events; Nurse's performance.



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1. Introduction

In carrying out the profession, nurses are very prone to stress, nurses in the Inpatient Unit at the hospital are required to have the ability and skills to help patients overcome their problems. These demands can cause stress.

Nursing in Indonesia is currently still in the process of professionalization, namely the occurrence of a change and development of characteristics under global and local demands, nurses must be able to provide professional nursing care to clients, in this case, is the patient. One proof of professional nursing care is reflected in the documentation of the nursing process where the professionalism of nurses is identical to the workload of nurses.

Data from the medical record at RSUD Kumala Siwi Kudus 2018 BOR reached 75.65% Increased BOR (bed occupation rate) to reach 85.88% in 2018 and the number of patients visit was recorded at 4253 patients with various cases such as Congestive Heart Failure, Hypertension, Abdominal Pain, Chronic Kidney Failure, Fever / Febris, Diarrhea, Vomiting and Nausea, Bronchopneumonia, Diabetes Mellitus, Dengue Fever / DHF, Post KLL Fractures, and other cases. Kumala Siwi Kudus General Hospital is a private hospital that provides services to patients as much as possible. With 116 people, the number of nurses and divided into several installations. A large number of visits will require treatment and require treatment by doctors and nurses in the hospital.

In the last two years, Kumala Siwi General Hospital has seen a lot of patient visits so that work activities for nurses will increase. This phenomenon occurs because nurses have to do quite dense work in the sense that the workload is increasing. When nurses are not feeling well, nurses will see a doctor on duty, if the health condition of the nurse needs to rest, the nurse gets permission from the doctor to not come to work. This is triggered by nurses who seek medical attention because of their unhealthy condition, reports from HRD every month; 5-10 sick letters are coming in so that in the inpatient room, each shifts the average shortage of nurses on duty. Data from HRD for employee turnover is also very high for nurses every month; some resign during 2018, around 20 percent. The results of that interview conducted by several researchers nurse at Kumala Siwi private Hospital obtained information that the workload they face in daily life there is nonsignificant changes. The workload is felt to increase if anyhow, many nurses did not come to work, such as study permits or assignments study. Apart from that, workloads heavy when there is a shift suddenly that requires the nurse to continue to shift without rest.

Kumala Siwi Kudus Hospital has been accredited by KARS and received the PARIPURNA 2012 version since February 2017 and has been verified in the 2nd year, 2020 will be re-accredited with SNARS ed 1. Hospitals in improving quality and service must refer to KARS accreditation and prioritize safety patient (patient safety) and make culture in the service of a perfect hospital. Based on the IKP report table above KTD, KPC, KNC in 2017 showed a decrease compared to 2016 and increased in 2018. This significant increase in 2018 must be immediately

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followed up by hospital management. In January 2019, a 2-year verification survey was carried out by KARS and Kumala Siwi Kudus General Hospital to get several recommendations to be followed up, especially the patient safety incident report that there was an increase in events from year to year starting from 2016 to 2018. This is a matter that must be followed up immediately because it will affect the quality of patient services at the Kumala Siwi Kudus General Hospital, it is necessary to have the participation of all parties, especially the Hospital management so that the patient's patient incident may not return, and the hospital can provide plenary services.

2. Materials and Methods

2.1. Research Design

This research is quantitative research with a Cross-Sectional survey method, and this research is intended to test the hypothesis. This study looked at the effect of stress (X1) and workload (X2) on the Near Miss / KNC (Y1) and impacts Nurse Performance of Inpatient Installation (Y2). In analyzing the data, the researcher used descriptive analysis first then used Inference Analysis with Regression Method, which was processed using Partial Least Square Regression/PLS Smart 3.

2.2. Data Analysis Techniques

Data obtained from respondents will be processed by tabulation. The results of the questionnaire were then performed descriptive statistical analysis and statistical inference analysis.

1. Descriptive analysis: used to analyze the characteristics of each variable, namely: stress variables, workload variables, and performance variables quantitatively. Descriptive analysis is performed using population frequency distribution analysis, which includes range, mean, median, standard deviation, and quartile deviation, which is equipped with graphs.
2. Statistical analysis Inferencing: used to test hypotheses, namely testing the effect of stress and workload either partially or simultaneously (together) on the near-miss / KNC and Performance of nurses inpatient care at the Kumala Siwi Kudus General Hospital The quantitative analysis used is Partial least square is a multivariate statistical technique that can handle multiple response variables and explanatory variables at the same time.

2.3. Partial Least Square Data Analysis

This research uses partial regression analysis (partial Least Square / PLS Regression) to test the five hypotheses proposed in this study. Each hypothesis will be analyzed using SmartPLS 3.0 software to test the relationship between variables, a predictive technique that can handle many independent variables, even though multicollinearity occurs between these variables (Soebagijo, n.d). According to Wold, PLS is a powerful analysis method because it is not based on many assumptions or conditions, such as normality and multicollinearity tests, which have their own advantages, among others: data does not have to be multivariate normal distribution, even indicators with a scale of data categories, ordinal, intervals to ratios can be used. Another advantage is that the sample size does not have to be significant (Sharifi, 2016).

Least Square Measurement Method (PLS)

Estimating parameters in PLS includes three things, namely;

- 1) Weight estimate used for latent variable scores.
- 2) The path connects between latent variables and loading estimates between latent variables.
- 3) Means and location parameters (regression constant values, intercepts) for indicators and latent variables.

To obtain these three estimates, PLS uses a three-stage iteration process, and each stage produces an estimate. The first stage produces weight estimators, the second stage produces estimates for the inner model and outer model, and the third phase produces estimates of means and locations (constants). In the first two stages, the iteration process is carried out with a deviation approach (deviation) from the mean (average) value. In the third stage, it can be based on the original data matrix and or the results of the estimation of the weights and path coefficients in the second stage; the purpose is to calculate and location parameters.

3. Result

3.1. Coefficient of Determination (R²)

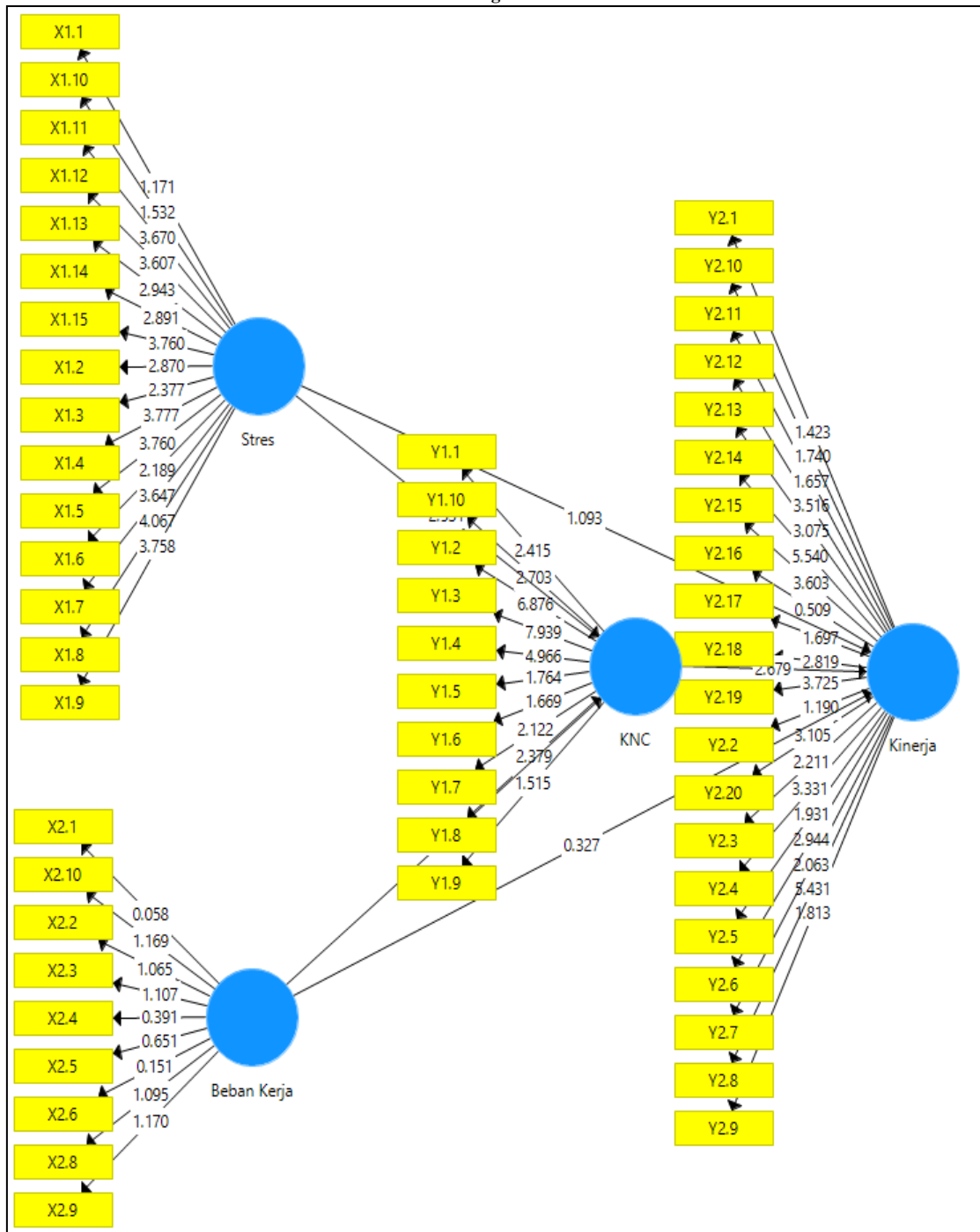
The results of a simple linear regression analysis using the PLS Smart3 program obtained a coefficient of determination (R²) = 0.306. Meaning: 30.6% of the KNC variable (Y1) can explain the performance variable (Y2) 34.7%, while% is determined by other factors such as stress and workload of 34.7%. For more details about the results of data processing with PLS Smart 3 for the coefficient of determination (R²) variable KNC (Y1) against KNC (Y2) can be shown in the following table:

Fig-1.

R Square		
Matriks	R Square	Adjusted R Square
KNC	0.306	0.284
Kinerja	0.347	0.317

Based on the description of these results, shows that all variables in this model have a path coefficient with a positive number. This shows that if the higher the value of the path coefficient on one independent variable on the dependent variable, the stronger the influence of the independent variables on the dependent variable

Fig-2.



Information:
 Dependent Variable = Near miss/ KNC
 Dependent Variable = performance
 Independent Predictor Variable = Stress
 Moderator independent variable = Workload

4. Discussion

Based on the results of data processing above using PLS Smart 3, the near-miss events affected Performance with T-statistics 2.628 and P-Values 0.009. Job stress affects the occurrence of near injury with T-statistics 2,675 and P-values 0,008. Job stress affects Performance with T-statistics 2.115 and P-Values 0.0035 [Dimitra et al. \(2018\)](#) and [Hamim \(2015\)](#). Based on the processing of questionnaire data obtained from inpatient nurses, also obtained workload does not affect the incidence of near injury T-statistic results 0.443 and P-Values results 0.665. The workload does not affect the performance of the 0.051 T-statistic results and the P-values results of 0.960. [Carlesi et al. \(2017\)](#) The most common problem of the units in this case the nursing unit is related to the number of Human Resources that are not in accordance with the workload and the quality of Human Resources but based on research

conducted by researchers the results of the opposite of existing theories (Aini, 2018a) Improve the quality of hospital services, especially nursing care, and it is necessary to improve the quality of nurse's Human Resources, both soft skills and hard skills. Hospitals that are able to compete in the market are hospitals that are able to provide quality products or services. Therefore, hospitals are required to continue to make improvements, especially in the quality of service. The competency-performance modification model shows the role of competence, organizational culture, leadership, and commitment to increasing nurse motivation. This also proves that motivation plays an important role in increasing job satisfaction and nurse performance (Aini, 2018b).

5. Conclusion

Fig-3.

	Sampel Asli (O)	Rata-rata Sam...	Standar Devias...	T Statistik (O/...	P Values
Beban Kerja -> ...	-0.123	0.017	0.284	0.433	0.665
Beban Kerja -> ...	0.013	0.037	0.255	0.051	0.960
KNC -> Kinerja	0.455	0.508	0.173	2.628	0.009
Stres -> KNC	-0.464	-0.424	0.174	2.675	0.008
Stres -> Kinerja	-0.460	-0.380	0.217	2.115	0.035

Table-1

H1	Near Miss/KNC→ performance	2,628	0,009	Acceptable
H2	Stress→Near Miss/KNC	2,675	0,008	Acceptable
H3	Stress→ Performance	2,115	0,035	Acceptable
H4	Workload→Near Miss/KNC	0,433	0,665	Not accepted
H5	Workload→ Performance	0,051	0,960	Not accepted

Based on the results of PLS, Smart 3 data is processing. The workload hypothesis influences the incidence of near injury is not proven, and the workload effects and impacts performance is also not proven. Qureshi *et al.* (2019) That could be influenced by the addition of human resources, which in January to June 2019 had not yet been fulfilled, after in July 2019 HR needs could be met, so the results of this workload affect KNC is not proven, based on dynamic organizational management theory and always changing. Stahl and Björkman (2006) and Faan *et al.* (2004).

Reference

- Aini, Q. (2018a). Management skill and leadership: A case study from hospital managers of charity business in health. *J. Soc. Sci. Res.*: Available: <https://doi.org/10.32861/jssr.412.478.482>
- Aini, Q. (2018b). Motivation, commitment and leadership skill in affecting performance hospital managers. *J. Soc. Sci. Res.*: Available: <https://doi.org/10.32861/jssr.412-707-710>
- Carlesi, K. C., Padilha, K. G., Toffoletto, M. C., Henriquez-Roldán, C. and Juan, M. A. C. (2017). Patient safety incidents and nursing workload. *Rev. Lat. Am. Enfermagem*, 1: 25. Available: <https://doi.org/10.1590/1518-8345.1280.2841>
- Dimitra, C., Tsounis, A., Markopoulos, N. and Sarafis, P. (2018). Occupational stress experienced by nurses working in a greek regional hospital: A cross-sectional study. *Iran. J. Nurs. Midwifery Res.*, 23: 450–57. Available: https://doi.org/10.4103/ijnmr.IJNMR_120_17
- Faan, E. C., Edd, R. N., Faan, T. G. C. and Phd, R. N. (2004). *Nursing case management: From essentials to advanced practice applications*. Elsevier Health Sciences.
- Hamim, N. (2015). Workload and work stress on caring behavior in nurse on nursing services. *Int. J. Hum. Resour. Stud.*, 5: 148–60. Available: <https://doi.org/10.5296/ijhrs.v5i3.8236>
- Qureshi, S. M., Purdy, N., Mohani, A. and Neumann, W. P. (2019). Predicting the effect of nurse-patient ratio on nurse workload and care quality using discrete event simulation. *J. Nurs. Manag.*: Available: <https://doi.org/10.1111/jonm.12757>
- Sharifi, A. (2016). Partial least squares-regression (pls-regression) in chemometrics. Available: https://www.researchgate.net/publication/327816273_Partial_Least_Squares-regression_PLS-regression_In_Chemometrics

- Soebagijo, T. (n.d). Pengembangan structural equation modeling (sem) dengan partial least square (pls). Available: https://www.academia.edu/35836090/PENGEMBANGAN_STRUCTURAL_EQUATION_MODELING_SEM_DENGAN_PARTIAL_LEAST_SQUARE_PLS
- Stahl, G. K. and Björkman, I. (2006). *Handbook of research in international human resource management*. E. Elgar: Cheltenham, UK ; Northampton, MA.