

ISSN 2597- 6052DOI: <https://doi.org/10.56338/mppki.v7i7.5623>**MPPKI****Media Publikasi Promosi Kesehatan Indonesia**
*The Indonesian Journal of Health Promotion***Research Articles****Open Access**

The Effect of Workload and Stress on Work Productivity in Nurses at Sabah Al Ahmad Urology Center Kuwait

Mochamad Robby Fajar Cahya^{1*}, Nafiah Ariyani², Kholil³^{1,2,3}University Binawan Jakarta, Indonesia*Author's Correspondence: Mochamad.robby@binawan.ac.id

Abstract

Background: Nursing is a profession that receives a lot of pressure and has an extreme workload that can cause stress and reduce work productivity due to the heavy tasks that nurses have to perform, which in turn can result in considerable work-related tension. This is especially relevant during the current period of uncertainty that has emerged as a result of the COVID-19 pandemic

Objective : To evaluate the effect of workload and stress on the work productivity of nurses. In a complex healthcare environment, nurses often face high workload demands and significant stress levels, which can affect their productivity.

Methods: This research method uses a quantitative approach with a Cross Sectional research design. Data was collected through a questionnaire given to a sample of nurses working in hospitals. This questionnaire includes a measurement scale to measure the nurse's workload level, stress level, and work productivity level. Data analysis was carried out using SEM PLS.

Results: The results of the analysis showed that there was no significant relationship between workload and nurse work productivity (p value 0.194 >0.05) and there was a significant relationship between work stress and nurse work productivity (p value 0.0000 <0.05). The higher the level of workload experienced by nurses, the higher the level of stress they experience, and the lower their work productivity. The implication of this study is the importance of effective workload management and stress management in an effort to increase the work productivity of nurses.

Conclusion: There is a significant relationship between work stress and nurse work productivity in SAUC. This means that the work stress felt by nurses at SAUC affects the work productivity of nurses at SAUC, when the level of stress experienced by nurses at SAUC is getting higher, it will cause a decrease in the work productivity of nurses at SAUC.

Keywords: Workload; Stress; Work Productivity; Nursing; Healthcare Management

INTRODUCTION

A hospital is an institution that provides medical services and requires a large number of Human Resources (HR). Nurses are the largest group of healthcare workers working in hospitals. The proportion of nursing staff amounted to 40 percent of the number of other health workers. Its role and function are very influential in medical service efforts in hospitals (1).

Nursing is a profession that gets a lot of pressure and has an extreme workload that can cause stress and reduce work productivity. The discussion related to the workload in the nursing profession is an interesting topic because of the strenuous tasks that nurses have to perform, which in turn can result in considerable work-related tensions. This is especially relevant during the current period of uncertainty that has emerged as a result of the COVID-19 pandemic.

Workload is a phenomenon that arises as a result of the interaction between various tasks and the work environment, competencies, attitudes, and perceptions of workers. In the nursing profession, workload occurs when the requirements for the quality and quantity of work exceed the sole capacity of a nurse. Quantity is related to the number of tasks that a nurse must perform, while quality concerns tasks that require special skills. Heavy workloads can stimulate the emergence of emotional responses among nurses, potentially disrupting their efficacy. The excessive work demands faced by nurses can generate work-related psychological stress (2).

According to the law on Consumer Protection in Indonesia, specifically Law Number 8 of 1999, nurses must have the ability to provide high-quality services that are in line with the established standards. To maintain professionalism, nurses are required to provide services to patients. Given their role as healthcare providers, nurses are entrusted with many responsibilities. This can be inferred from the number of patient visits and the number of nurses on duty in the hospital. As stipulated in Permenkes No. 56 of 2014, the ratio of nurses to patients is 1:2. Failure to maintain a proportionality between the number of tasks and physical abilities, skills, and time needed to perform them can lead to the emergence of work-related stress (3).

The concept of work productivity is related to the act of producing commodities or services that show an increase in both caliber and quantity over time (4). Maintaining quality work productivity requires qualified personnel. Many factors affect labor productivity, including human, material, mechanical and method factors (Martono, 2019); motivation factors and work stress (5); organizational communication, competence, and work commitment also affect work productivity (6). Other factors include: environment, work stress and work culture (7,8).

In addition, it has been affirmed by Wahyudi and Gunarto (2019) that factors such as motivation, workload, and leadership have a significant influence of 80.63% on work productivity (9). In line with that, Sutrisno et al (2019) have shown that discipline and work motivation have a considerable impact of 56.2% on employee productivity (10). In addition, Ali et al. (2019) have confirmed that work design is also a determining factor in nurse productivity (11).

Achieving high levels of productivity in the workplace provides an advantageous position for organizations in terms of their continuity. Productive employees have a positive mindset and work towards the advancement of the organization they are affiliated with. The issue of productivity is critical for leaders, as it allows them to design long-term strategic plans for the growth and improvement of healthcare, particularly nursing services.

Measuring nurse productivity in the context of hospital services is a diverse task, given the complexity of their roles. In accordance with Law of the Republic of Indonesia Number 38 of 2014, there are four different forms of productivity that apply to nurses, including: 1) nursing care managers, 2) counseling providers, 3) nursing service managers, and 4) researchers.

Sabah Al Ahmad Urology Center (SAUC) is a Kuwaiti government-owned hospital that provides tertiary services in the field of urology. During the Covid-19 pandemic, SAUC underwent a change in service management to a primary service that no longer focuses on the field of urology, but also accepts other medical services that are not related to gynecology. This can be seen from the conversion of several rooms into general surgical treatment rooms, even into treatment rooms for Covid 19 patients. As a result, since October 2020 there has been an increase in the number of patients received by around 90%, but it is not accompanied by an increase in the number of SAUC health workers. This results in an increased workload that can cause stress for health workers, especially nurses at SAUC. Based on a preliminary study by conducting interviews with the Head Nurse and Director of Nursing (Matron) of SAUC on January 22, 2021, observations have been made in this study revealing that the workload of nurses in the inpatient room is disproportionate to the number of available nurses. As a result, nurses experience excessive workload due to the lack of nurses on duty in the inpatient room. Matron has also received reports showing a 30% increase in the absence of nurses due to illness since the change of function. It is therefore evident that if a large number of nurses are absent, it will lead to a decrease in nurse productivity, which will further result in a decrease in the performance and quality of nursing care provided to patients.

METHOD

This study is a quantitative study that uses a scientific approach to how workload and stress affect the work productivity of nurses working at Sabah Al Ahmad Urology Center Kuwait. The data from all research variables obtained through interviews and questionnaires are then processed in the form of numbers.

This study was conducted using an analytical descriptive method using a cross-sectional study design. The data in the form of numbers was then analyzed and processed statistically using the SPSS program series 26 and data analysis using SEM (Smart PLS series 3.2.7).

The population in this study is 201 nurses who work at the Sabah Al Ahmad Urology Center spread across several rooms, including Ward 1, Ward 2, Ward 3, Ward 4, Operation Theater and ICU. A group of individuals selected using the sampling method is referred to as a sample in the population.

RESULT

The following are the results of a study on the effect of workload and stress on the productivity of nurses at Sabah Al Ahmad Urology Center Kuwait.

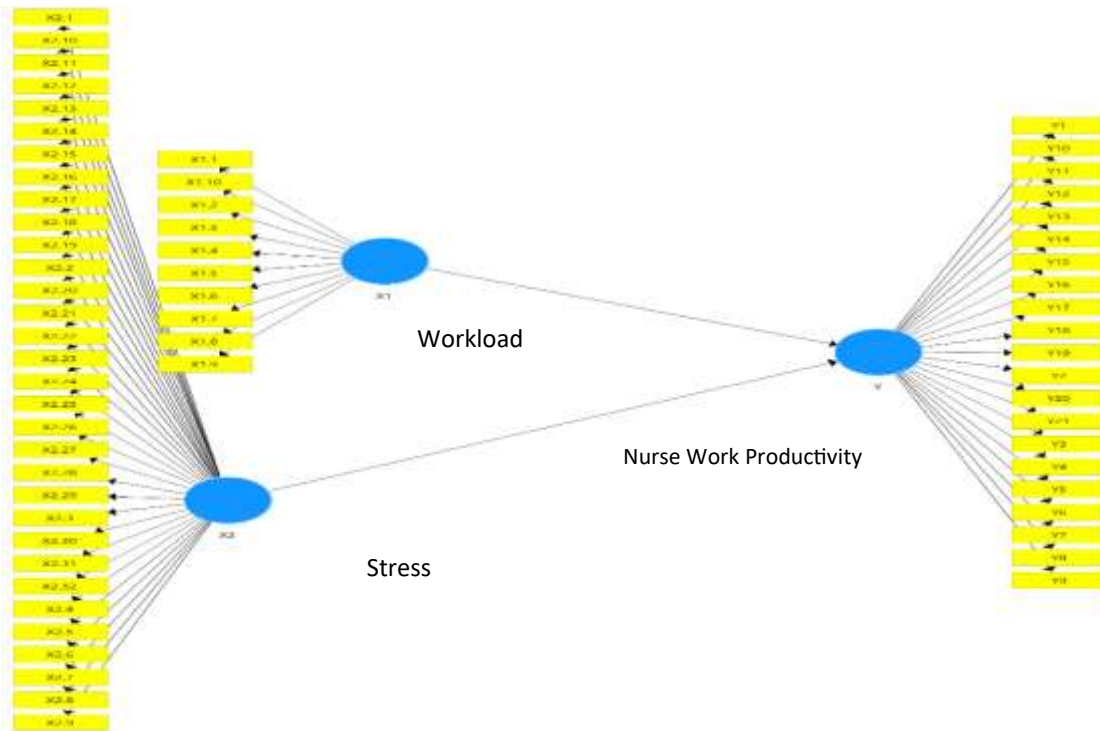
Table 1. Overview of Characteristics of Nurse Respondents (n=74)

It	Characteristic	Frequency	%	
1	Age	< 30 Years	16	22
		30 – 50 Years	57	77
		> 50 Years	1	1
2	Gender	Male	43	58
		Woman	31	42
3	Citizen	Indonesian	22	30
		Kuwaity	4	5
		Philippines	6	8
		Indian	30	41
		Egyption	7	9
		Others	5	7
4	Marital Status	Unmarried	16	22
		Marry	58	78
		Divorce	0	0
5	Education	D-3	26	35
		S1	38	51
		S2	10	14
		S3	0	0
6	Employment Status	MOH	53	72
		MOH Helmet	21	28
7	Work Area	Ward 1	11	15
		Ward 2	9	12
		Ward 3	15	20
		Ward 4	27	36
		ICU	8	11
		OK	4	5
8	Length of Work	Less than 1 year	6	8
		1-5 years	10	14
		6-10 years	17	23
		More than 10 years	41	55

Based on Table 1, the majority of respondents were aged 30 – 50 years old (77%), male (55%), Indian citizens (41%), married (78%), S1 education level (51%), Ward 4 work area (36%). And the working period is more than 10 years (55%).

Data Findings and Data Analysis

Based on the Research Objectives and the Methodology Chapter, the initial model of PLS in this case is as follows:



Picture1. PLS Early Models

Based on the diagram above, the structural model in this study has 1 model in it, namely: Model of the influence of workload, stress, work productivity. So, productivity is endogenous as a latent variable, while workload, stress, is an exogenous latent variable. The latent constructs or variables in this structural equation include: workload, stress, and work productivity. Each of these latent variables has an indicator or variable manifest in it.

Table 2. Outer Loading Value

	X1 Workload	X2 Stress	Y Work Productivity
X1.1	-0.143		
X1.2	0.004		
X1.3	0.239		
X1.4	0.596		
X1.5	0.274		
X1.6	0.516		
X1.7	0.611		
X1.8	0.385		
X1.9	0.166		
X2.1		0.200	
X2.10		0.567	
X2.11		0.467	
X2.12		0.614	
X2.13		0.488	
X2.14		0.635	
X2.15		0.470	
X2.16		0.523	
X2.17		0.716	
X2.18		0.826	
X2.19		0.843	

X2.2	0.293	
X2.20	0.777	
X2.21	0.840	
X2.22	0.796	
X2.23	0.750	
X2.24	0.822	
X2.25	0.769	
X2.26	0.860	
X2.27	0.787	
X2.28	0.883	
X2.29	0.797	
X2.3	0.166	
X2.30	0.847	
X2.31	0.848	
X2.32	0.775	
X2.4	0.355	
X2.5	0.312	
X2.6	0.222	
X2.7	0.240	
X2.8	0.519	
X2.9	0.699	
Y1		0.565
Y10		0.699
Y11		0.534
Y12		0.445
Y13		0.654
Y14		0.647
Y15		0.745
Y16		0.106
Y17		0.628
Y18		0.737
Y19		0.695
Y2		0.582
Y20		0.546
Y21		0.330
Y3		0.626
Y4		0.501
Y5		0.555
Y6		0.615
Y7		0.579
Y8		0.564
Y9		0.600

The purpose of assessing the reliability of indicators is related to determining the dependence of measurement indicators on latent variables. The way to achieve this is to examine the external loading results generated from each indicator. Loading values that exceed 0.7 indicates that the constructed under consideration has the potential to account for more than 50% of the variance seen in their respective indicators (12).

From Table 2, the outer loading value above can be seen that all items or indicators of the outer loading value have > 0.7 which means > 0.7 which means that it is valid. So based on the validity of the outer loading, it is stated that some indicators < 0.7 , the Outer Loading value limit > 0.5 is still acceptable as long as the validity and reliability of the construct meet the requirements. So based on the validity of the outer loading, it is stated that some items or indicators are invalid in terms of convergent validity, for example in the X1.1, X2.1, X2.2 and other constructs, then the next step is to delete the items that < 0.6 . So it is necessary to re-analyze by deleting invalid items. Here is a more detailed explanation:

Table 3. Second Stage Outer Loading Value

	X1 Workload	X2 Stress	Y Work Productivity
X1.4	0.769		
X1.6	0.717		
X1.7	0.711		
X2.12		0.637	
X2.14		0.668	
X2.17		0.744	
X2.18		0.825	
X2.19		0.840	
X2.20		0.779	
X2.21		0.824	
X2.22		0.813	
X2.23		0.757	
X2.24		0.809	
X2.25		0.790	
X2.26		0.858	
X2.27		0.786	
X2.28		0.882	
X2.29		0.795	
X2.30		0.849	
X2.31		0.849	
X2.32		0.785	
X2.9		0.700	
Y10			0.718
Y15			0.727
Y17			0.619
Y18			0.839
Y19			0.694
Y6			0.691
Y9			0.788

From table 3 above, the outer loading value above can be seen that all items or indicators have $>$ the outer loading value to 0.7 (Marked in green which means > 0.7 which means it is valid. The Outer Loading value limit > 0.5 is still acceptable as long as the validity and reliability of the construct are met. So based on the validity of the outer loading, it is stated that all indicators have been valid in convergent validity. So the next step is to examine whether there is multicollinearity at the outer model level. The result is based on the VIF Outer Model values in the table below:

Table 4. Values of VIF Outer Model

	VIF
X1.4	1.068
X1.6	1.645
X1.7	1.580
X2.12	3.753
X2.14	4.091
X2.17	4.370
X2.18	6.302
X2.19	4.354
X2.20	5.215
X2.21	5.958
X2.22	6.567
X2.23	3.893
X2.24	5.968
X2.25	3.771
X2.26	4.851
X2.27	5.912
X2.28	8.215
X2.29	3.428
X2.30	5.999
X2.31	5.463
X2.32	3.735
X2.9	3.073
Y10	1.625
Y15	1.948
Y17	1.865
Y18	2.662
Y19	1.648
Y6	1.489
Y9	1.922

Table 4, pictured above, illustrates that no indicator shows the value of the VIF model exceeds 5, or even 10. So, if the VIF value exceeds 10, the multicollinearity problem arises at the outer model level. This phenomenon is caused by a significant correlation between variable indicators. Given the absence of a VIF indicator exceeding 10, there is no multicollinearity problem at the outer model level.

The next step is to conduct an analysis of Construct Reliability. Construct Reliability is a measure of the reliability of latent variable constructs. The value that is considered reliable must be above 0.70. Construct reliability is the same as cronbach alpha.

Table 5. Construct reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
X1 Workload	0.606	0.600	0.776	0.537
X2 Stress	0.967	0.974	0.969	0.626
Y Work Productivity	0.856	0.869	0.887	0.530

Taken from the Outer Stage data

Internal Consistency Reliability Internal Consistency Reliability Assessment of latent construct ability to be measured by indicators is an important task (13). The evaluation of this ability was carried out through the use of two tools, namely composite reliability and Cronbach's alpha. A composite reliability value between 0.6 and 0.7 is considered a good indication of reliability (14). In addition, for Cronbach alpha, the expected value is above 0.6 (15).

Based on table 5 above, it can be seen that all constructs have a value of Cronbach's Alpha > 0.6 and even all of them, so it can be said that all of these constructs are reliable. For example, Cronbach's Alpha of the latent variable (Workload of $0.606 > 0.6$ then (workload) is reliable.

Next, a Unidimensionality Model Analysis is an important aspect of the measurement that seeks to ensure that no problems arise. This is achieved through the application of composite reliability indicators and cronbach alpha in the undimensionality test. It is important to note that both indicators have a cut value of 0.7. As shown in the table above, all constructions have successfully qualified for unidimensionality due to the fact that their composite reliability value exceeds 0.7. For example, the Latent variable Workload (X1) with a composite reliability of $0.776 > 0.7$ can be considered reliable.

Convergent validity, a concept that relies on the principle that the size of a construct must be highly correlated, is an important factor in determining the validity of a construct (15). Reflective indicators, in particular, are evaluated using Average Variance Extracted (AVE) to determine convergent validity. The AVE value must be equal to or greater than 0.5. In essence, an AVE value of 0.5 or more indicates that a construction can account for at least 50% of the variance of its items (16).

Based on the Average Variance Extracted (AVE) criteria to assess convergent validity, all constructions show convergent validity because the AVE value exceeds the threshold of 0.50. Specifically, the working benan latent variable (X1) indicates convergent validity because the AVE value of 0.537 exceeds the specified threshold.

Validity of discrimination is an important analytical tool to ensure the accuracy of reflective indicators in measuring appropriate construction. It is based on the basic principle that each indicator should show a high correlation with its respective construction separately. Conversely, different construction sizes should not show a high correlation (15). In the SmartPLS 3.2.7 application, the evaluation of the validity of discrimination requires the use of cross-loading, Fornell-Larcker Criteria, and Heterotrait-Monotrait (HTMT) values (17).

The purpose of the validity of discrimination is to evaluate the extent to which the original latent construction differs from other constructions. When the validity value of the discrimination is high, it indicates that the construct is singular and is capable of explaining the phenomenon being measured. The validity of the construct can be confirmed by comparing the root value of the Average Variance Extracted (AVE) using the Fornell-Larcker Criterion with the latent variable correlation value. The root value of AVE must be greater than the correlation between the latent variables.

To evaluate the validity of discrimination, one can make use of the Fornell Larcker Criterion, a conventional technique that has been used for more than three decades. This method involves comparing the square root of the Average Variance Extracted (AVE) of each construction with the correlation between other constructions in the model (18). If the square root value of AVE for each construct exceeds the correlation value between the construction and other constructions in the model, then the model is considered to have a commendable value of discriminatory validity (19).

Table 6. Discriminant validity

	X1 Workload	X2 Stress	Y Work Productivity
X1 Workload	0.733		
X2 Stress	-0.005	0.792	
Y Work Productivity	0.201	0.528	0.728

Taken from the Outer Stage data

Based on table 6 above, all the roots of the AVE (Fornell-Larcker Criterion) of each construct are greater than their correlation with other variables. For example, Workload (X1): the AVE value is 0.537 then the AVE Root is 0.733. The assessment of the cross-loading value of each construct is essential to ensure that the correlation of the construct with the measurement item exceeds that of the other construction. It is estimated that the cross-loading value will be higher than 0.7 (15).

Cross-loading is a method to determine the validity of discrimination by evaluating the value of cross loading. This approach entails comparing the loading value of each item to the construction that corresponds to its cross-loading value. Identifying a loading value greater than its cross-loading value signifies the validity of the discrimination. The next table presents the results of cross loading.

Table 7. Cross Loading

	X1 Workload	X2 Stress	Y Work Productivity
X1.4	0.769	0.055	0.189
X1.6	0.717	-0.135	0.090
X1.7	0.711	0.001	0.130
X2.12	-0.025	0.637	0.181
X2.14	-0.055	0.668	0.256
X2.17	-0.113	0.744	0.221
X2.18	0.086	0.825	0.419
X2.19	0.037	0.840	0.507
X2.20	0.057	0.779	0.377
X2.21	0.036	0.824	0.497
X2.22	0.002	0.813	0.337
X2.23	-0.113	0.757	0.351
X2.24	-0.022	0.809	0.461
X2.25	-0.054	0.790	0.419
X2.26	-0.084	0.858	0.435
X2.27	-0.108	0.786	0.354
X2.28	-0.119	0.882	0.488
X2.29	0.083	0.795	0.533
X2.30	0.023	0.849	0.480
X2.31	0.021	0.849	0.488
X2.32	0.133	0.785	0.444
X2.9	-0.011	0.700	0.337
Y10	0.032	0.377	0.718
Y15	0.290	0.238	0.727
Y17	0.191	0.082	0.619
Y18	0.127	0.437	0.839
Y19	0.285	0.287	0.694
Y6	0.131	0.514	0.691
Y9	0.060	0.493	0.788

Taken from the Outer Stage data.

From the data presented in Table 7, it is evident that all loading indicators show values that exceed their cross loading corresponding to the construction. To illustrate, in the case of workload construction (X1), the loading value of all its indicators is greater than all its cross loading to other constructions. Specifically, for the X1.4 indicator, the loading value is 0.769, which is greater than the cross loading to other constructions, namely 0.055 to stress (X2) and 0.189 to Work productivity (Y). This pattern was also observed for all other items, where the value of loading into the construction exceeded the value of cross loading to other constructions. Given that the value of its loading indicator against the construct is greater than its crossload, the model meets the requirements for discriminatory validity.

DISCUSSION

After being explained in detail in the outer and inner model stages above, the summary shows that all the p values of the indicators to the latent variables are less than 0.05 so that all indicators are declared valid and reliable for their construction.

Effect of Workload on Work Productivity

Based on the hypothesis testing conducted in this study, it was determined that the workload had a negative and insignificant impact on work productivity, with a P value of 0.194, which was greater than the alpha value of 0.05. This finding is congruent with the test results of Yanna Dwi Saptarani et al. (2022), which revealed that the value of the p path coefficient of 0.108, is also greater than the alpha value of 0.05. This indicates that workload has no direct effect on work productivity (20). This is in line with the theoretical perspective of Laeham and Wexley (1982), who affirmed that work productivity is not only about achieving as much work as possible, but rather prioritizing the quality of work performed (21). Expressed differently, an individual's work productivity is determined by how effectively they carry out their work, rather than the number of jobs assigned to them. Therefore, it can be argued that excessive workload does not necessarily lead to a decrease in work productivity.

The Effect of Work Stress on Work Productivity

Based on the hypothesis testing conducted in this study, it was found that work stress has a positive and significant impact on work productivity. In particular, the work stress experienced by the staff at the Sabah Al Ahmad Urology Center turned out to affect the work productivity of the nurses at the center, as evidenced by the P value obtained of 0.000, which is less than the alpha of 0.05. These results show that the increase in stress levels experienced by nurses in SAUC will result in a decrease in nurse productivity in SAUC. The results of this study are in accordance with research conducted (22). The p-value between work stress and work productivity is 0.011, and the r-value is -0.422. Therefore, this study reveals a correlation between work stress and nurses' work productivity. According to the results of Tawarka's research (2019), work stress is one of the factors that have an impact on work productivity (23). Work stress has the potential to affect a person's emotions, mental state, and daily behavior, leading to a lack of clear and effective thinking due to impaired rational and reasoning abilities. Such incidents have a direct influence on work performance and productivity (24). Work stress arises due to the demands of work that can cause stress. It is a state of tension that gives rise to an impactful physical and psychological imbalance.

CONCLUSION AND SUGGESTIONS

There was no significant relationship between workload and nurse work productivity. This means that the workload owned by nurses at SAUC does not have a major impact on the productivity of nurses at SAUC.

There is a significant relationship between work stress and nurse work productivity at SAUC. This means that the work stress felt by nurses at SAUC affects the work productivity of nurses at SAUC, when the level of stress experienced by nurses at SAUC is getting higher, it will cause a decrease in the work productivity of nurses at SAUC.

BIBLIOGRAPHY

1. Abadi TSH, Askari M, Miri K, Nia MN. (2020). Depression, stress and anxiety of nurses in COVID-19 pandemic in Nohe-Dey Hospital in Torbat-e-Heydariyeh city, Iran. *Journal of Military Medicine*.
2. Amelia AR d. (2019). Overview of Work Stress in Nurses in the Psychiatric Inpatient Room of the Regional Special Hospital of South Sulawesi Province. *Multidisciplinary Synergy of Science and Technology*.
3. Anto, S., Andi Latif, S., Pannyiwi, R., Ratu, M., Werdyaningsih, E., & Thalib, K. U. (2022). Analysis of workload with nurse performance in the implementation of nursing care. *Barongko: Journal of Health Sciences*, 1(1), 41–46. <https://doi.org/10.59585/bajik.v1i1.38>
4. Swing WI. (2014). Analysis of the Relationship between Physical and Mental Workload and Work Stress in Nurses in the Inpatient Room of Dr. Soeselo Slawi Hospital: Diponegoro University.
5. Betan, A., Rukayah, S., Purbanova, R., Purwoto, A., Rusli, R., Nurnainah, N., & Prabu Aji, S. (2023). Management of the implementation of nursing care through the recovery rate of inpatients in hospitals. *Social Friends: Journal of Community Service*, 1(2), 65–67. <https://doi.org/10.59585/sosisabdimas.v1i2.36>
6. Cain, B. (2007). *A Review of the Mental Workload Literature*. Defence Research and Development Toronto (Canada).
7. Chusna JA. (2010). *The Relationship between Nurses' Workload and Work Stress in the Inpatient Installation of RSU Islam Surakarta*: University of Muhammadiyah Surakarta.
8. Erdius E, Dewi FST. (2017). Work stress in hospital nurses in Muara Enim: an analysis of physical and mental workload. *Community Medicine News*.
9. Gao, X., Jiang, L., Hu, Y., Li, L., & Hou, L. (2020). Nurses' experiences regarding shift patterns in isolation wards during the COVID-19 pandemic in China: A qualitative study. *Journal of Clinical Nursing*, 29(21–22). <https://doi.org/10.1111/jocn.15464>
10. Handayani RT, Kuntari S, Darmayanti AT, Widiyanto A. (2020). Stress-Causing Factors in Health Workers and the Community During the Covid-19 Pandemic. *Journal of Psychiatric Nursing*.
11. Haryanti d. (2013). *The Relationship between Workload and Nurse Work Stress in the Emergency Installation*

- of Semarang Regency Hospital. *Journal of Nursing Management*.
12. Hidayat AA. (2011). *Introduction to Basic Concepts of Nursing*. Jakarta: Salemba Medika;
 13. Herqutanto d. (2017). *Work Stress in Nurses in Hospitals and Primary Health Care Facilities*. eJKI.
 14. Hutasuhut A. (2014). *Overview of Stressors and Work Stress of Operating Room Nurses at the Regional General Hospital dr. Pirngadi Medan City, University of North Sumatra*;
 15. International Labour Organisation. (2020). *Managing work-related psychosocial risks during the COVID-19*. www.ilo.org/publns.
 16. Indonesia MKR. (2014). *Regulation of the Minister of Health Number 56 concerning Classification and Licensing of Hospitals*.
 17. Kasmarani MK. (2012). *The Effect of Physical and Mental Workload on Work Stress in Nurses in the Emergency Installation (IGD) of Cianjur Hospital*. *Journal of Public Health, Diponegoro University*; 1(2):18807.
 18. Kokoroko, E., & Sanda, M. A. (2019). *Effect of Workload on Job Stress of Ghanaian OPD Nurses: The Role of Coworker Support*. *Safety and Health at Work*, 10(3), 341–346. <https://doi.org/10.1016/j.shaw.2019.04.002>
 19. Martha ARA. (2016). *Mental Workload, Work Shifts, Interpersonal Relationships and Work Stress in Intensive Installation Nurses at dr. Soebandi Jember Hospital*.
 20. Mundung CA, Kolibu FK, Joseph WB. (2017). *The Relationship Between Workload and Reward with Work Stress in Nurses in the Inpatient Installation of Noongan Hospital*. *KESMAS*.; 6(3).
 21. Musradinur. (2016). *Stress and How to Deal with It in a Psychological Perspective*. *Journal of Education*.; 2.
 22. NIOSH. (1998). *Stress at Work*. U.S.: Department of Health and Human Services.
 23. Prasetyo, A. (2008). *The Effect of Stress on the Commitment of Universitas Airlangga Students to Anxiety as a Moderator Variable*. *Economic Magazine*, 18(3), 257–270.
 24. Concerned LD. (2007). *Analysis of the Relationship between Workload and Nurse Work Stress in Each Inpatient Room of Sidikalang Hospital [Thesis]*. Medan: University of North Sumatra.
 25. Prabawati, R. (2012). *The Relationship between Mental Workload and Work Stress in Inpatient Nurses of Dr. R. M. Soedjarwadi Klaten Hospital*. Surakarta: Sebelas Maret University.
 26. Rahmadia F d. (2019). *The Effect of Physical Work Environment and Social Support on Work Stress in Nurses at the Islamic Hospital (RSI) Ibnu Sina Payakumbuh*. *EcoGen*.
 27. Runtu VV, Pondaag L, Hamel R. (2018). *The Relationship between Physical Workload and Nurses' Work Stress in the Inpatient Installation Room of GMIM Pancaran Kasih General Hospital, Manado*. *NURSING JOURNAL*.; 6(1).
 28. Ruid, J. Y., & Ariyani, N. D. (2023). *Review of Archive Management in the Administrative Unit of Bhayangkara Kindergarten II Sartika Asih Hospital Bandung*. Barongko: *Journal of Health Sciences*, 2(1), 56–64. <https://doi.org/10.59585/bajik.v2i1.160>
 29. Rosyanti L, Hadi I. (2020). *Psychological Impact in Providing Care and Health Services for Covid-19 Patients on Health Professionals*. *Health Information Research Journal*.
 30. Sarsangi V, Salehiniya H, Hannani M. (2015). *Mental Workload and Its Affected Factors Among Nurses in Kashan Province During 2014*. *Journal of Rafsanjan University of Medical Science*.
 31. Sucipto CD. *Occupational Safety and Health*. Yogyakarta: Gosyen Publishing; 2014.
 32. Syahira A. (2019). *Factors Related to Work Stress in Nurses in the Inpatient Room of dr. Rasidin Padang* : *Andalas University*.
 33. Soup. (2012). *Nurses' Work Stress Based on Organizational Characteristics in Hospitals*. *Indonesian Journal of Nursing*.; 15.
 34. Said RM, El-Shafei DA. (2020). *Occupational stress, job satisfaction, and intent to leave: nurses working on front lines during COVID-19 pandemic in Zagazig City, Egypt*. *Environmental Science and Pollution Research*.:1-11.
 35. Silwal M, Koirala D, Koirala S, Lamichhane A. (2020). *Depression, Anxiety and Stress among Nurses during Corona Lockdown in a Selected Teaching Hospital, Kaski, Nepal*. *Journal of Health and Allied Sciences*.; 10(2):82-7.
 36. Setiyana VY. (2013). *Forgiveness and Work Stress for Nurses*. *Scientific Journal of Applied Psychology*.
 37. Sipatu L. (2013). *The Influence of Motivation, Work Environment and Work Stress on Nurse Performance in the Inpatient Room of Undata Palu Hospital*. *e-Journal of Catalogs*.
 38. Tarwaka, Bakri SH, Sudiajeng L. (2004). *Ergonomics for Safety, Occupational Health and Productivity*. Surakarta: UNIBA PRESS;
 39. Tarwaka. (2014). *Industrial Ergonomics (Basics of Ergonomics Knowledge and Applications in the Workplace)*. Surakarta: Harapan Press.

40. Tajvar A, Saraji GN, Ghanbarnejad A. (2015). Occupational Stress and Mental Health Among Nurses in a Medical Intensive Care Unit of a General Hospital in Bandar Abbas in 2013. *Electron Physician*.39.
41. Puspitasari GT. (2018). The Relationship between Physical and Mental Workload with Work Stress in the Inpatient Installation of Dr. Haryoto Lumajang Regional Hospital.
42. Law Number 8 on Consumer Protection. 1999.
43. Law Number 44 concerning Hospitals. 2009.
44. Wang H, Liu Y, Hu K, Zhang M, Du M, Huang H, et al. (2020). Healthcare workers' stress when caring for COVID-19 patients: An altruistic perspective. *Nursing ethics*.; 27(7):1490-500.
45. Wulandari S, Samsir S, Marpaung RJ. (2017). Analysis of Mental, Physical Workload and Work Stress in Ergonomically Nurses at Dr. Achmad Mochtar Bukittinggi Hospital: Riau University.
46. Zhu Z, Xu S, Wang H, Liu Z, Wu J, Li G, et al. (2020). COVID-19 in Wuhan: Immediate Psychological Impact on 5062 Health Workers. *MedRxiv*.