



(RESEARCH ARTICLE)



The relation of workload and work hours with work stress of nurses during pandemic of COVID-19 in the inpatient room general hospital regional Kendari city

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World Journal of Advanced Research and Reviews, 2022, 15(03), 148–154

Publication history: Received on 04 August 2022; revised on 07 September 2022; accepted on 09 September 2022

Article DOI: <https://doi.org/10.30574/wjarr.2022.15.3.0899>

Abstract

Work stress on nurses is one of the problems in human resource management in hospitals. With the increasing work demands, the more likely nurses are to experience work stress, especially during the Covid-19 pandemic. This study aims to determine the relationship between workload and working hours with the work stress of nurses during the Covid-19 pandemic in the inpatient room of the Kendari City Hospital. This study method is an observational quantitative with a cross-sectional study design and using the Chi-square test. The population is 122 nurses and a total samples of 55 people that is obtained by using proportional random sampling technique for sampling. The instrument used is a questionnaire. The results showed that there was a relationship between workload and work stress with a p-value of 0.026 and there was a relationship between working hours and work stress with a p value of 0.035. The conclusion of this study was that the work stress of nurses in the inpatient room at the of the General Hospital Kendari City was influenced by workload and working hours.

Keywords: Work stress; Workload; Working hours; COVID-19

1. Introduction

The outbreak of Covid-19 has affected the lives of people around the world. Covid-19 is a physical and mental burden for the community because of its high transmission rate. In dealing with this pandemic condition, health service units, especially hospitals, are required to be able to provide adequate resources in treating and controlling the transmission of Covid-19. The high prevalence of Covid-19 and the increased workload in hospitals pose a threat to the physical, mental, and emotional health of nurses (1). During the Covid-19 pandemic, the role of nurses is very important in preparing health services and reducing the spread of Covid-19. There is a threat that comes from the work environment that creates fear and increases stress for nurses (2,3) because the risk of exposure to Covid-19 from patients is quite high (4).

Nurses are required to provide services to patients in a professional manner. In this case, nurses as health workers have high duties and responsibilities in providing nursing care to patients. In carrying out their duties and profession nurses are vulnerable to stress. Stress is an inability to deal with threats faced by mental, physical and emotional, which in turn can affect physical health (5,6). Nurse work stress is influenced by environmental factors, work overload, organization and individual (7). Work stress can reduce work efficiency and can have a negative impact on human physical and mental health (5;9).

The American National Association for Occupational Health (ANAHOH) places the incidence of work stress in nurses at the top of the first forty cases of work stress (9). In 2018 work stress on nurses reached 89.2% followed by several other countries such as South Korea 85.2% in 2019, Europe 58.2% in the same year, India 50% and Australia 44.82% in 2020

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(10). In a study conducted on healthcare workers in China, it was found that 50% experienced depression, 45% experienced anxiety and 34% experienced insomnia(11). The phenomenon of work stress has become a problem in the world. This can be seen from the incidence of stress in England accounting for 385,000 cases, in Wales 11,000 to 26,000 cases (12).

In Indonesia, the health sector is one of the sectors with the highest prevalence of work stress(13). According to data from Health Human Resources Development and Empowerment Agency in 2020, the highest number of health workers is nursing staff as much as 40.85% of the total health workforce, thus the incidence of nurse stress is quite large. Meanwhile, Nasrullah et al (2020) in their study of 644 samples of nurses in 8 islands in Indonesia found that 55% (354 people) experienced work stress during the Covid-19 pandemic. From these data, it shows that the incidence of work stress has a high prevalence globally in facing this pandemic (14).

Work stress can be a risk factor for occupational health and safety problems, resources and ability to work (15). Excessive workload can cause work stress (16). In addition, factors that can cause work stress include work factors, individual factors and supporting factors. Occupational factors include work environment, interpersonal conflict, workload, and working hours. The individual factors are age, marital status, years of service and gender, while the supporting factors are social support. The impact of work stress experienced by nurses in the workplace can lead to changes in individuals who experience stress (17). Research conducted by Izzati (2021), showed that there was a relationship between physical and mental workload with work stress on nurses in the inpatient room at the Padang Panjang City Hospital during the Covid-19 pandemic (18).

Based on the results of the initial survey, information was obtained that nurses in the inpatient room felt an excessive workload during the Covid-19 pandemic due to the large number of patients, while the number of nurses in each room was limited and the nurse's responsibilities were very large, requiring nurses who served in the inpatient room. always on standby. In addition, nurses rarely take breaks during work and if there is an opportunity, they can only take turns to eat or worship. This causes nurses to experience fatigue, stress, and ineffective in providing services to patients.

Based on the description above, nurses are vulnerable to work stress during the Covid-19 pandemic due to the increase in the workload of nurses and the mismatch between workload and working hours. This study aims to determine the relationship between workload and working hours with the work stress of nurses during the Covid-19 pandemic in the inpatient room of the Kendari City Hospital.

2. Material and methods

This study was a quantitative observational study with a cross sectional study design. The population in this study were nurses who worked in the inpatient room of the Kendari City General Hospital, amounting to 122 people. The number of samples as many as 55 people who were drawn using the method proportional random sampling. The data collection instrument used a questionnaire that had been tested for validity and reliability. The research questionnaire contains questions about workload and working hours associated with nurses' work stress. Data were analyzed by univariate and bivariate. To see the relationship between variables, the chi-square test was used with a 95% confidence level. Furthermore, the data is presented in the form of tables and narratives.

3. Results and discussion

This study analyzes the relationship between workload, working hours and work environment with nurses' work stress during the Covid-19 pandemic.

3.1. Characteristics

Table 1 showed that the young and productive age groups, where the most were under 40 years old, were 41 nurses (92.7%). Age above 40 years was a mature age so it can control stress better. Nurses who were over 40 years of age are more mature mentally, wise, think more rationally, can control emotions better, are tolerant of the views and behavior of others who are different from themselves and are more mature in terms of psychology (19).

Table 1 Characteristics of Respondents (Nurses) in the Inpatient Room at the Kendari City Hospital in 2022

Variable	Amount	
	n	%
Age Group (Years)		
23-28	16	29.1
29-33	17	30.9
34-39	18	32.7
40-44	4	7.3
Total	55	100
Gender		
Man	14	25.5
Woman	41	74.5
Total	55	100
Working Period (Years)		
1-5	22	40.0
6-10	17	30.9
11-15	11	20.0
>15	5	9.1
Total	55	100

In terms of gender, the highest number were female nurses, namely 41 nurses (74.5%). Individual characteristics can be the cause of work stress, one of which was gender (20). Based on research conducted by Awalia (2021), stated that female nurses experienced more work stress than male respondents (21). The status of female nurses was mainly married, they had other responsibilities outside of work. The routine of married women workers usually starts with homework before leaving for work. Then after finishing work at office, sometimes they did not take a break right away but return to continue their work as a housewife (22). Symptoms of work stress in women are generally influenced by physiological factors due to responsibilities in their family environment (23).

Table 1 also shows that the most working years are 1-5 years, namely 22 (40%) nurses. A new work period can be a trigger for work stress due to the lack of ability to adapt to the work environment (24). In addition, tenure can also shape knowledge and work experience, so that nurses with longer tenures usually have more work experience so they can better manage their stress levels (25).

3.2. Workload

The results of the analysis of the relationship between workload and work stress can be seen as follows

Table 2 The relationship between workload and work stress of nurses during the Covid-19 pandemic in the inpatient room of the kendari city hospital in 2022

Variable	Category	Work Stress				Total		Test results
		Heavy		Light		n	%	
		n	%	n	%			
Workload	Heavy	17	45.9	20	54.1	37	100	0.026
	Light	14	77.8	4	22.2	18	100	

Based on the table 2 shows that from 37 nurses who have a heavy workload, there are 17 nurses (45.9%) who experience heavy work stress and 20 nurses (54.1%) who experience light work stress. While nurses who have a light workload, from 18 nurses there are 14 nurses (77.8%) who experience heavy work stress and 4 nurses (22.2%) who experience light work stress.

Based on the results with chi-squared test at the 95% confidence level, it showed that the p value = 0.026 or <0,05, thus H0 was rejected and Ha was accepted. This matter showed that there was a relationship between workload and work stress of nurses in the inpatient room at the Kendari City Hospital during the Covid-19 pandemic. The findings during the study were that the workload of nurses in the inpatient room at the Kendari City Hospital was included in the heavy category, which means that the heavier the demands of the task imposed by the nurse, the more work stress experienced by nurses will increase. Nurses were required to perform a series of nursing tasks that must be done for patient safety. Nurses must provide extra strict and fast services starting from monitoring and recording patient conditions on a regular basis, being involved in planning patient care, to doing other additional tasks during working hours. Nurses have a sense of responsibility towards work,

In addition, nurses at room Kendari City Hospital inpatients carry out their duties and responsibilities maximally. The tasks that were routinely carried out every day were providing nursing care, giving medicine, patient observation and also therapeutic communication in the context of the patient's care and healing process. In addition to carrying out basic tasks, nurses also accompany doctor visits, deliver prescriptions to pharmacies, guide practical students, make reports, maintain the cleanliness of the treatment room and its environment, handle patient administrative matters and also include the procurement of medical consumables

The research conducted by Herwati and Munaa (2021), stated that there was a significant effect between workload on nurses' work stress during the Covid-19 pandemic at Sondosia Hospital, Bima Regency (16). Other related research states that there has been an increase in the workload borne by nurses during the Covid-19 pandemic, wheremost nurses almost daily experience levels of anxiety, stress, and mild depression (26).

Kendari City General Hospital is a referral hospital to serve Covid-19 patients. This condition is one of the triggers for work stress for nurses. Stress at work can affect the hormonal balance and normal physiology of nurses working in hospitals, especially during the Covid-19 pandemic (4).Fear of Covid-19 transmission is also one of the causes of nurses' work stress (1). In addition to fear of infection transmission, excessive workload factors and psychological fatigue resulting from work will also trigger work stress(27). The impact of the heavy workload of nurses can also affect the quality of health services provided(28)Therefore, the nurse's workload must be regulated in accordance with the ratio of the need for nurses to the number of patients treated and referring to the labor law.

3.3. Work Hour

Table 3 shows that of the 40 nurses who have heavy working hours, there are 26 (65.0%) nurses who experience heavy work stress and 14 (35%) nurses who experience light work stress. Meanwhile, of the 15 nurses who had light working hours, there were 5 (33.3%) who experienced heavy work stress and 10 (66,7%) who experienced light work stress. Based on the results of statistical tests using the chi-square test at a confidence level of 95% (0.05) it shows that p value = 0.035, thus H0 is rejected and Ha is accepted. This shows that there is a relationship between working hours and the work stress of nurses during the Covid-19 pandemic in the inpatient room of the Kendari City Hospital. The occurrence of nurse work stress is caused by the large number of patients who have to get health services, while working hours are limited, so nurses are often in a hurry to complete their work. In addition, several nurses who also occupy structural positions will have an impact on an increasingly heavy workload so that more time and energy are needed to complete a series of jobs.

Table 3 Relationship between working hours and nurse work stress during the covid-19 pandemic in the inpatient room of the kendari city hospital in 2022

Variable	Category	Work Stress				Total		Test results
		Heavy		Light		n	%	
		n	%	n	%			
Working hours	Heavy	26	65.0	14	35.0	40	100	0.035
	Light	5	33.3	10	66.7	15	100	

Nurses were required to perform a series of quality, fast, precise, and careful nursing tasks in complex conditions within a predetermined period of time. Nurses were also often burdened with other additional tasks and often carry out activities that are not their functions, such as handling administration, preparing facilities and infrastructure, guiding practical students, and others. This dual role was carried out simultaneously during working hours, coupled with the large number of patients with limited nursing staff per shift, so that most nurses often need extra time to complete their work. There is no difference in working hours before and during the Covid-19 pandemic, but the workload felt quite heavy due to the large number of patients.

This result was in line with the research conducted by Kusumaningsih et al. (2020) which states that an excessive workload on health workers could arise due to an imbalance between working time and the amount of work that must be completed. Especially during the Covid-19 pandemic, along with the increasing number of patients, it also has an impact on the increase in the volume of work that must be completed in the allotted time (29).

Due to the lack of nurses in serving patients in large numbers with a limited time, causing nurses to be prone to fatigue. In addition to causing work fatigue, heavy workloads and the pressure of time to complete a job can trigger work stress (30). Work fatigue had an impact on work productivity (31). Physical and psychological work fatigue was a form of extreme work stress (32). To reduce the workload of nurses, not by increasing working hours but by adjusting the ratio of the number of nurses to the number of patients and setting the right work shift (33).

In this study, it was also found that during the increase in Covid-19 cases, there was almost no rest time for nurses, besides the availability of rest room facilities which were inadequate and uncomfortable. Therefore, to reduce the workload of nurses and reduce work fatigue, it is necessary to schedule nurse breaks and provide a comfortable work environment, especially resting room facilities for nurses. This is in line with research conducted by NM Village (2018), which states that a non-ergonomic work environment can cause stress in the workplace (34). In addition, research conducted by Fakhnurozi AF et.al (2020) also states that the availability of facilities and infrastructure around employees who are doing work can affect the implementation of their work (35). A bad work environment, lack of facilities and equipment that support the work of nurses are obstacles in the patient care process and can trigger work stress (20).

4. Conclusion

Based on the results of this research showed that there is a relationship between workload and working hours with work stress of nurses during the Covid-19 pandemic in the inpatient room at the Kendari City Hospital.

Compliance with ethical standards

Acknowledgments

The authors would like to thank Halu Oleo University for their support, Kendari City Regional General Hospital and all nurses who have been willing to become respondents.

Disclosure of conflict of interest

The authors declare that there is no conflict of interest.

Statement of informed consent

All samples in the study have stated their consent to be used as samples by signing an informed consent.

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