The Impact of Stress on The Work Performance of COVID-19 Isolation Room Nurses at Hospitals in Timor

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Abstract

The incidence of Corona Virus Disease (COVID-19) in East Nusa Tenggara has increased tremendously since April 2020. This has caused nurses to experience anxiety and stress due to fears of a shortage of special COVID-19 inpatient rooms. This study aimed to analyze the correlation between stress and the work performance of the COVID-19 isolation room nurses in mainland Timor. This cross-sectional study involved 278 nurses who worked in the COVID-19 isolation rooms of three hospitals on Timor Island. The Depression Anxiety Stress Scales (DASS-42) and the Nurse Work Performance Sheet were applied to obtain the data. The results demonstrated that 64 respondents exhibited severe stress which 53 showed poor performance and 11 displayed adequate performance. There was a relationship between work stress and the work performance of the COVID-19 isolation room nurses (p-value = 0.001). This study did not measure other variables that are most likely correlated with work performance, but the result indicates the need for treatments for the nurses who work in such rooms to prevent worse conditions.

Keywords: COVID-19, stress, work performance

Abstrak

Dampak Stres terhadap Performa Kerja Perawat di Ruang Isolasi COVID-19 di Rumah Sakit di Timor. *Kejadian* Corona Virus Disease *(COVID-19) di Nusa Tenggara Timur telah meningkat pesat sejak April 2020. Hal ini menyebabkan perawat mengalami kecemasan dan stres akibat kekhawatiran akan kekurangan ruang rawat inap khusus COVID-19. Penelitian ini bertujuan untuk menganalisis hubungan antara stres dan performa kerja perawat ruang isolasi COVID-19 di daratan Timor. Penelitian cross-sectional ini melibatkan 278 perawat yang bekerja di ruang isolasi COVID-19 pada tiga rumah sakit yang berada di Pulau Timor. Skala* Depression Anxiety Stress Scales (DASS-42) *dan Lembar Performa Kerja Perawat digunakan untuk memperoleh data. Hasil penelitian menunjukkan bahwa 64 responden mengalami stres berat. Sebanyak 53 responden menunjukkan performa kerja yang buruk dan 11 responden menunjukkan performa kerja yang memadai. Terdapat hubungan antara stres kerja dengan performa kerja perawat ruang isolasi COVID-19 (p = 0,001). Penelitian ini tidak mengukur variabel lain yang kemungkinan besar berkorelasi dengan performa kerja, tetapi hasil penelitian ini mengindikasikan perlunya penanganan bagi perawat yang bekerja di ruang isolasi untuk mencegah kondisi yang lebih buruk terjadi.*

Kata Kunci: COVID-19*, performa kerja, stress*

Introduction

The world is currently experiencing a COVID-19 pandemic, namely severe acute respiratory syndrome (SARS-CoV-2), a virus that was originally detected in Wuhan. The virus has spread to nearly 210 countries, causing the highest number of deaths induced by any pandemic since the Spanish flu. This virus has also killed nearly 600,000 thousand people (Woods et al., 2020). As of September 6, 2022, 605 million COVID-19 cases have been identified worldwide (WorldOMeter, 2022).

The first case appeared in Indonesia in mid-March 2020, and the first case in the Province

of East Nusa Tenggara was identified in April 2020 (United Nations International Children's Emergency Fund [UNICEF], 2020). East Nusa Tenggara is one of the provinces of Indonesia and is geographically separated from other provinces or different islands. Nusa Tenggara Province is also one of the archipelago provinces that encompasses 1,192 islands, including several large islands such as Timor, Sumba, Timor, Lembata, Alor, Sabu, and Rote and a thousand uninhabited islands. Most of the jobs are related to agriculture, livestock, sales, and fishing. The frequency of community interactions among the population is also exceptionally high due to trading activities related to agriculture, livestock, mining, gardens, etc. (Gugus Tugas Per-cepatan Penanganan [GTPP] COVID-19, 2021).

The first COVID-19 case that occurred in East Nusa Tenggara was due to a history of traveling from an infected area (Java Island). After the first case, a lengthy period transpired before there was a local transmission incident involving one of the traders in a traditional market. The government also imposed the Pembatasan Sosial Berskala Besar (PSBB) or a social restriction ban to reduce local transmission rates (Gugus Tugas Percepatan Penanganan [GTPP] COVID-19, 2021). The increase in the incidence rate was very low in this province; however, in mid-September 2020, more cases arose. This dramatic increase was due to tourism and travel to the contaminated area. East Nusa Tenggara had more than 60 cases at the time, but the wards for COVID-19 patients were fully occupied.

The hospital even closed regular wards to transform them into wards for COVID-19 patients. This very high increase in the incidence rate even caused referral hospitals to experience a shortage of personal protective equipment (PPE) in the early days of the pandemic.

The increase in the number of patients made the nurses anxious, specifically at the related wards, which created stress for nurses in the COVID-19 isolation room (Merlin et al., 2022). Additionally, problems related to the fullness of the COVID-19 ward, extensive work hours, independent isolation away from family, and the prolonged use of Level 1 personal protective equipment (PPE) caused discomfort, anxiety, and stress for nurses (McCreary & Pogue, 2020; Nienhaus & Hod, 2020).

The nurse on duty in the COVID-19 room also complained about the increasing workload and deteriorating working conditions (Kuo et al., 2020). Meanwhile, one element that is necessary during a pandemic is the proper management of human resources of healthcare workers, including nurses (Al-Shamsi et al., 2020; Kontoangelos et al., 2020). In interviews with several nurses, they stated that they often experienced the fear of being infected with COVID-19. Some of them had very minimal interactions with patients and only observed clients through surveillance cameras that were above the patients' rooms. This research was conducted to analyze the relationship between job stress and the work performance of nurses in COVID-19 isolation rooms.

Methods

The aim of the study was to determine the stress conditions experienced by nurses while on duty rather than after duty in order to avoid bias. This cross-sectional study analyzed the relationship between two variables, namely work stress and the work performance of nurses in COVID-19 rooms at referral hospitals in Timor Island, East Nusa Tenggara Province, Indonesia.

This research was conducted from October 2020 to December 2020. The sample in this study consisted of 278 nurses who were on duty in the COVID-19 wards at three hospitals on Timor Island. The inclusion criteria called for nurses who work at the COVID-19 wards, as opposed to nurses who were in a state of independent isolation after serving in COVID-19 rooms. This inclusion criterion was created according to the roll-out schedule to guard the

COVID-19 room, namely 14 days of service following 14 days of self-isolation.

This study used two questionnaires. The DASS-42 was used to measure the stress levels, as it is a valid questionnaire to measure depression, stress, and anxiety and has been internationally tested for its validity or discriminant validity (Kashani et al., 2015). The results of the reliability test yielded a Cronbach alpha of 0.933 for stress. The Indonesian version of this instrument had been broadly used in many studies, which have been published in open access journals. The stress scale measures symptoms including tension, irritability, and a tendency to overreact to stressful events through 14 questions. The scoring on the DASS-42 questionnaire uses a Likert scale from 0 to 3 (never, sometimes, often, very often), and the stress category ranges from normal to very severe. The categorization used for measuring DASS-42 is normal (0–14), mild (15–18), medium (19–25), severe (26–33), and very severe (> 34).

Second, the Nurse Performance questionnaire was used to measure the nurses' work performance. The questionnaire yielded an r value of <0.678 for the validity test and a Cronbach's alpha value of 0.863. This questionnaire measures the responsibilities and duties of the nurses, namely informed consent, assessment, nursing diagnosis, nursing action or implementation, and nursing evaluation (Nurhayati, 2016). The questionnaire consists of 15 statements, and the scores used are as follows: done (1), sometimes (2), and not (3). The performance is only divided into three categories, namely good (15–25), adequate (26–35), and poor (36–45).

All questionnaires were administered using the Google Form and then sent via WhatsApp. Both questionnaires were sent together. The data was analyzed using the SPSS software.

This study was approved by the Singaraja Community Welfare Foundation – Commission for Health Research Ethics, Buleleng Institute of Health Sciences with the following ethical clearance number: No. 120/EC-KEPK-SB/X/2020.

Results

Based on Table 1, the average age of the respondents was 26 years old, with the youngest being 21 years old and the oldest being 26 years old. The average respondent had worked for two years, and the longest had been working for five years.

Based on Table 2, most of the nurses in the COVID-19 ward majority were female (65.8%), had received a Nursing Diploma III as their highest level of education (74.1%), and reported moderate stress, with a frequency of 139 (50%) respondents. As many as 11 respondents reported to have normal stress level (4%), mild stress (15.1%), severe stress (23.1%), and very severe stress (7.9%). And for the work performance, a total of 182 respondents (65.5%) answered "adequate" performance and 96 respondents (34.5%) answered "poor" performance.

Based on Table 3, most of the nurses exhibited poorer performance due to stress, with a p-value of 0.001. The stress experienced by these nurses affected their work performance.

Discussion

Most of the nurses in the COVID-19 rooms experienced moderate stress. The results of interviews with several nurses also indicated that the

Table 1. Respondents' Characteristics by Age and Length of Work

Characteristics	Mean	Min	Max
Age	26	21	52
Length of Work	2	1	5

Table 2. Respondents' Characteristics by Gender, Level of Education, Work Stress, and Work Performance

Characteristics	Frequency (N)	Percentage (%)
Gender		
Female	183	65.8
Male	95	34.2
Level of Education		
D-III Nursing	206	74.1
S1-Ners	72	25.9
Work Stress		
Normal	11	4
Mild	42	15.1
Moderate	139	50
Severe	64	23.1
Very Severe	22	7.9
Work Performance		
Poor	96	34.5
Adequate	182	65.5
Good	0	0

Table 3. The Relationship of Work Stress with the Work Performance of the COVID-19 Room Nurses in Kupang in 2020

Variables		Poor Performance	Adequate Performance	Total	p
Stress	Normal	11	0	11	
	Mild	0	42	42	
	Moderate	32	107	139	0.001
	Severe	53	11	64	
	Very Severe	0	22	22	
	Total	96	182	278	

high levels of stress resulted from the high risk of being exposed to the COVID-19 virus due to limited personal protective equipment. In addition to these factors, they were also required to live apart from their families because of concerns about transmitting the virus to their families. The stress experienced by nurses in the room largely resulted from anxiety about being exposed to the virus as well as PPE, which limited their range of motion. The results of this study are consistent with previous research from Zhu et al. (2020), who stated that in this COVID-19 pandemic, 35% of nurses experienced moderate to severe stress because of rising numbers of cases and deaths; in addition, the unprecedented lockdown of the city might have created and spread public fear, panic, and distress (Zhu et al., 2020).

The stress experienced by nurses in the COVID-19 isolation room was apparent when they first became nurses in the isolation room. Some of their basic human needs, such as eating and drinking, and use of the bathroom, had to be neglected for hours when wearing personal protective equipment. Furthermore, a condition such as a very significant increase in the incidence of COVID-19 can also frighten nurses, thereby causing stress. Even some of their colleagues were infected with COVID-19 and required tre-

atment in the COVID-19 isolation rooms with intensive care (Mossa-Basha et al., 2020).

The availability of the special COVID-19 room, which began to be very limited in terms of capacity, induced fear among the nurses. Nurses on duty in the COVID-19 room were more prone to experiencing stress (Mo et al., 2020) for this reason and due to several other conditions, including minimal personal protective equipment, the challenge of meeting the basic needs of nurses who were limited during hazmat use, news about COVID-19 conditions outside the area and even abroad (which increased sharply), and an increase in the death rate due to COVID-19. Some of these are factors that trigger stress for nurses. The stress experienced by the nurses exerted an impact on their disturbed sleep patterns; some were overly anxious, and many of them lost their appetites due to the conditions they were experiencing (Mo et al., 2020).

Strong work performance is necessary during the COVID-19 pandemic. The nurses stated that they executed their duties, namely providing nursing care to patients, but that they focused on curative efforts and functions that involved collaboration with physicians. The nurses indicated that the frequency of meetings with patients simply to provide emotional support was very limited. Most of the nurses stated that they did not spend a long time with patients to teach them about personal hygiene, nutritional needs, or the need for comfort or relaxation to reduce anxiety or stress experienced by these patients. However, all nurses stated that they always provide reinforcement to patients who experience positive changes, even if only momentarily (Allam et al., 2020). COVID-19 is a highly infectious disease that emerged as the result of the outbreak of a new virus. There was a sudden need to implement new standards and procedures under significant duress as a result of a lack of resources and information about a novel virus. Nurses working in COVID-19 isolation rooms have lamented issues related to insufficient supplies of PPE and discomfort due to long use, fear of infection, and various other hardships and stressors (Merlin et al., 2022).

The results of this study are also the same as those yielded by previous research, which reported that the very rapid spread of the COVID-19 disease was burdening medical personnel. Additionally, the requirements for quarantines, school closings, etc. heavily affected the levels of stress among healthcare providers (Al-Shamsi et al., 2020). Other studies also reported that nurses experienced stress, fatigue, and boredom due to not seeing their families as well as the stigmatization they experienced because of working in the COVID-19 wards (Nienhaus & Hod, 2020).

The stress experienced by these nurses affects their work performance as nurses. When stressed, the nurse will feel fatigued more quickly, frequently inducing excessive anxiety when interacting with patients. The stress experienced by nurses can affect their performance as nurses who provide holistic nursing care. Holistic care means treating patients in a manner that accounts for their biological, psychological, social, spiritual, and cultural contexts (Ying et al., 2020).

Nurse work performance is regarded as adept if a nurse offers nursing care to patients from assessment to evaluation. Executing the nurse's functions entails working independently, collaborating, and delegating. However, during the COVID-19 pandemic, various independent actions performed by nurses were hindered as a result of limits to the frequency of meetings with patients (Tomlin et al., 2020).

The results of the previous study in Germany and Malaysia demonstrated that stress strongly affects nurses' performance. Nurses in Malaysia reported feeling stress, burnout, fatigue, anxiety, and sadness because some of them had not seen their families for months. They also reported experiencing discrimination from the public, as nurses working in COVID-19 isolation rooms are perceived as "infected COVID-19 persons" (Nienhaus & Hod, 2020). Stress

can affect their performance as nurses. Lengthy service times can make them tired and suboptimal in providing care to patients (Raudenská et al., 2020). Their performance can also be limited by personal protective equipment that makes it difficult to move (Ying et al., 2020).

The stress experienced by nurses can also affect their families, or families can have the same impacts as a result of COVID-19. One of the impacts is afraid that their family members who are health workers will be exposed and become infected (Ying et al., 2020). Nurses and their families were asked to meet via the internet using video calls or voice calls to reduce perceived anxiety (Ying et al., 2020).

The nurse on duty in the COVID-19 isolation ward could not return home for rest or to meet their family. They were given their own place to stay in the hotel while on duty in the COVID-19 isolation room. This was intended to suppress the spread of COVID-19 from nurses in the COVID-19 isolation room to family members at home. All of the activities of nurses working in the COVID-19 isolation room were also highly restricted, resembling quarantine conditions (Nienhaus & Hod, 2020).

Apart from some of the factors above, the location of East Nusa Tenggara Province, which is far from the capital city, is also a drawback if the limited medical equipment due to the immense increase in number of cases will cause a hospital to collapse due to delayed supply. The fastest medium of transportation is air, and, even in that case, transportation takes 3 to 4 hours from the capital city of Jakarta.

Conclusion

The current COVID-19 pandemic has exerted an impact on nurses, their families, and even patients. Most of the nurses experience high stress due to their fear of exposure and the personal protective equipment they use. In addition, there was a significant increase in the number of patients infected with COVID-19. Several fam-

ily members and nurses were infected with COVID-19. Above, we have delineated some of the factors that trigger stress for nurses in the COVID-19 isolation room. The perceived stress impacts their performance in providing optimal nursing care.

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