THE RELATIONSHIP BETWEEN RESPONDENTS' CHARACTERISTICS AND NURSES' BURNOUT IN CARING COVID-19 PATIENTS

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ABSTRACT

Covid-19 causes fear, worry, fatigue, and post-traumatic stress disorder in nurses who are frontline staff in hospitals. Based on a survey at a hospital nurses felt burnout in caring for the covid-19 patients due to lack of rest, lack of concentration when providing nursing care, and physical burnout caused by an increase in patients with COVID-19. This study aims to determine the association between respondent characteristics and nurses' burnout while in caring for covid-19 patients. This research used a correlation quantitative research design with a cross-sectional approach. The sampling technique used was a total sampling of 52 nurses who work at private hospitals in western Indonesia. Data analysis was bivariate with the Pearson chi-square test. *The research questionnaire used a subjective questionnaire self-rating test from the industrial fatigue research committee Japan (IFRC).* The chi-square test resulted that the variables were not related in caring for covid-19 patients, which is age (p-value = 0.414), gender (p-value = 0.404), education (p-value = 0.069), and marital status (p-value = 0.429). Burnout can occur from several factors such as workload, shift, and work environment. This result can imply for nurses to arrange a time to rest and better scheduling. Nursing managers can also reduce burnout by rewarding, motivating, foster a sense of community in the workplace, and creating a comfortable environment for nurses.

***Keywords**: Burnout, Nurse, Fear, Stress Disorder, Post-Traumatic, Covid-19*

INTRODUCTION

Since the end of December 2019, Covid-19, which was caused by Coronavirus 2 (SARS-Cov-2), has infected Wuhan, China, and spread to 215 other countries. Based on data from the World Health Organization (WHO) on October 10, 2020, globally, the number of confirmed Covid-19 was 36,754,395 and 1,064,838 (2.9%). While in Southeast Asia there were 7,823,832 confirmed deaths and 125,842 (1.6%); and in Indonesia as of October 10, 2020, the number of confirmed cases was 333,449 and those who died were 11,844 (3.6%). The Ministry of Health's Crisis Center reports that DKI Jakarta has the highest number of cases in Indonesia as many as 84,135 people and 1,855 deaths, while Banten Province was confirmed positive for as many as 6,711 people and died 197 people. From August – October 2020, the total number of patients who have been treated is 605 people (WHO, 2020).

The Covid-19 pandemic is a major threat to the health system, and nurses are the frontline

healthcare professionals that deal directly with patient care and treatment (Liu et al., 2020). Covid-19 testing revealed that many nurses were positive. The information about Indonesian nurses who tested positively for Covid-19, according to PPNI (Indonesian National Nurses Association) data on October 10, 2020, amounted to 2779 nurses and 105 nurses who died. Data from Human Resources Development on October 10, 2020, in a private hospital in West Indonesia, the number of nurses who were confirmed positive was 10 nurses and no nurses died.

Covid-19 provokes fear, worry, and stress. However, this is a typical reaction to threats, and occasionally it occurs when faced with uncertainty or the unknown, as it did in the COVID-19 pandemic setting. (Paterson et al., 2020). According to data from health workers who are at the forefront of HIV, SARS, Ebola, and other epidemics show that working on the front lines of a pandemic/epidemic has significant psychological impacts such as burnout, post-traumatic stress disorder and anxiety. It is multifaceted and involves worries about getting sick or dying, feeling out of control, not being able to help patients due to a lack of resources, moral harm owing to a division of labour, mistrust of institutional solutions, and social stigma resulting from exposure. (Chen et al., 2020; Tucci et al., 2017).

There is frequently a lack of protection against contamination for healthcare professionals, especially nurses who are in close touch with patients while giving care, an increased risk of infection, exhaustion, worry, anxiety, and depression (Kang et al., 2020). Burnout is a process where there is a decrease in muscle function and a decrease in muscle strength due to excessive work activities. Burnout can occur in nurses carrying out their duties to be responsible within 7 days for 24 working hours and nurses in charge of treating patients infected with the coronavirus, have long shifts; while other nurses have a three-shift system (Hoseinabadi et al., 2020; Susetyo et al., 2012)

The increase in cases of Covid-19 patients which continues to increase every day makes nurses tired of carrying out nursing care for patients (Chen et al., 2020; Tucci et al., 2017). Burnout occurs as a result of chronic stress and is characterized by physical exhaustion (Creedy et al., 2017). Burnout causes a nurse to lose their ability to deal with their surroundings, which increases the likelihood of turnover, poor performance, and depression.

The quality of health services, especially hospitals, is not only influenced by the quality factor of manpower but is also greatly influenced by the workload which results in the health workers experiencing burnout. This is evident when there is an increase in patient visits and a rise in the bed occupancy rate (BOR). One of the burnout syndromes is emotional exhaustion (Octara et al., 2022).

During the COVID-19 outbreak, this happened to healthcare personnel, when the number of patients increased significantly over a short period of time while they were also dealing with diseases that required extraordinary self-protection and prevention measures, such as wearing hazmat suits and N95 masks for hours at a time, which significantly reduced oxygen consumption and increased carbon dioxide in the body, causing faecal suffocation. In addition, the fear of transmitting the virus which can cause serious illness to death

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and infect family members at home, especially the elderly and people with comorbidities, is an additional psychological burden that also adds to the stressor for health workers (Octara et al., 2022).

According to research showed moderate levels of burnout among nurses in Wuhan with emotional exhaustion (60.5%), depersonalization (42.3%), and personal achievement (60.6%)(Hu et al., 2020). Accordance with interviews that have been carried out with nurses at private hospitals in West Indonesia, which makes nurses feel tired in treating Covid-19 patients where they say they cannot rest enough, lack of concentration when providing nursing care, and physical exhaustion with an increase in the number of patients confirmed Covid-19 every day. The health workers, especially nurses who are confirmed positive and must be isolated independently, will reduce the number of nurses providing nursing care to Covid-19 patients. Excessive burnout of nurses in caring for COVID-19 patients can be prevented by having a balanced nurse (Astuti et al., 2017).

Another meta-analysis that included information from 49 countries indicated that 11.23% of nurses reported having burnout symptoms (Galanis et al., 2021). Several factors can cause work burnout such as age, gender, education level, marital status, nutritional status. Job factors such as monotonous work, length of work, workload, work attitude. Psychological factors are the work environment such as work climate, noise, and lighting (Hutabarat, 2017).

This study aimed to describe the relationship between respondent characteristics (age, gender, education, and marital status) with

nurses' burnout in treating COVID-19 patients.

LITERATURE REVIEW

Burnout is currently a widespread workforce dilemma brought on by dissatisfaction with institutional policies, administrative tasks, interpersonal friction, insufficient personnel, unmanageable patient workloads, a lack of time to provide healthcare, and insufficient support for wellness (Hofmeyer et al., 2020). Factors related to burnout among health workers, especially nurses in various countries, such as internal factors (gender, age, marital status, and personality), and external factors (workload, years of service, role conflict, and role ambiguity, and environment work) (Santoso, 2021).

Burnout of nurses because of COVID-19 has been evident in terms of its personal, organizational, and social implications. On an individual level, nurses exhibited psychophysiological, psychological, and behavioral burnout symptoms. Tiredness, gastrointestinal issues, weight loss, coronary heart disease, breathing issues, and general discomfort were the most often reported psycho-physiological symptoms (Wu et al., 2020).

Emotional tiredness, a short fuse, being suspicious and nervous, impatience, helplessness, easy sobbing, lowered self-esteem and self-confidence, difficulties concentrating, apathy toward patients, and sadness were among the psychological symptoms. In addition to increased drug, alcohol, and smoking use, behavioral burnout symptoms included a physical and psychological withdrawal from patients, repetition of errors, procrastination, a decline in the quality of the service provided, a

breakdown in relationships with colleagues and customers, a decline in job performance, job dissatisfaction, arguments with family and friends, and a worsening of relationships at work (Kisa, 2020; Talaee et al., 2022; Wu et al., 2020).

Burnout is caused by sociodemographic characteristics like gender and educational attainment. Two research indicated that while the male sex exhibits higher levels of depersonalization, but the female sex exhibits higher levels of emotional exhaustion. Other social factors that can increase nurse burnout include lack of social support, the presence of friends or relatives who are infected with Covid-19, longer working hours, handling the threat of COVID-19 more actively, and a lack of readiness on the part of friends and colleagues to cope with COVID-19 (Galanis et al., 2021).

Previous studies on ICU nurses at a hospital in Milan, Italy, revealed a significant prevalence of burnout in nurses and health assistant, with 61.9% reporting emotional exhaustion, 47.6% experiencing depersonalization, and 34% achieving personal goals. To measure the amount of burnout among nurses, this study used the *Maslach Burnout Inventory (MBI) questionnaire* tool. This questionnaire has 22 items that measure the frequency and intensity of work-related effects, symptoms, and emotional perceptions. It has 9 items that measure emotional exhaustion, 5 items that measure depersonalization, and 8 items that measure personal achievement. Emotional exhaustion is the loss of motivation for work, accompanied by a sense of emptiness and diminished emotional capacity to handle routine workload;

depersonalization is comprised of unfavorable feelings of cynicism and indifference toward patients and even colleagues; and personal achievement is made up of a self-perception of extreme inadequacy at work and a decline in professional competences. (Bisesti et al., 2021).

Based on the literature, several questions were found to conduct this research, namely what characteristics influence nurse burnout, how is nurse burnout treating patients, and is there a relationship between nurse characteristics and burnout in caring for patients during Covid-19?

METHOD

This study used correlational quantitative methods with a cross-sectional study approach. This research was conducted in a private hospital for Covid-19 patient referrals in Western Indonesia. The population was 52 nurses and using a total sampling technique.

This research was conducted online from February – April 2021 using a modified questionnaire instrument *subjective Self Rating test* from *Industrial Fatigue Research Committee Jepang* consist of ten questions about sleepiness, ten questions about difficulty concentrating, and ten questions about physical exhaustion, so that the total statement is thirty questions. This questionnaire uses a Likert scale with 5 answer options, namely 1 never, 2 almost never, 3 sometimes, 4 often, 5 always. The questionnaire distributed by Google form consists of explanation and benefit of the research. This research was conducted from March to April 2021.

The questionnaire has validity and reliability for 30 respondents. All the statements were valid

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(>0.361) and reliable with Cronbach alpha 0.953. The statistical test of this study used the *chi-square* correlation test to determine whether there was a relationship between the respondent characteristics and nurses' burnout.

This study was approved by the Research Ethics Committee of the Faculty of Nursing at West Indonesian Private University (008R/RCTC-EC/R/I/2021). The principles of ethics used respect for human dignity, privacy and confidentiality, justice, and beneficence (Polit & Beck, 2018).

RESULTS
Univariate Analysis

The results of this study showed the characteristics of respondents were age, gender, education, status marital (table 1), and nurses' burnout during caring for the covid-19 patients (table 2).

Table 1. Characteristics of respondents (N=52)

Characteristics	n	%
Age		
21-25	34	65%
26-30	13	25%
>30	5	10%
Total	**52**	**100%**
Gender		
Male	8	15%
Female	44	85%
Total	**52**	**100%**
Education		
Associate (D3-nursing)	10	19%
Bachelor (S1-Nurse)	42	81%
Total	**52**	**100%**
Marital status		
No	43	83%
Yes	9	17%
Total	**52**	**100%**

Table 1 demonstrates that the majority of nurses (65%) are between the ages of 21-25. Most of the female gender are 44 nurses (85%), the majority of the bachelor's degree are 42 nurses (81%) and the nurses who are working are not married as many as 43 nurses (83%). One study in Brazil also found that the main characteristics of the respondents were women with no children, higher education and as nursing technicians (Meneguin et al., 2023).

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Table 2. Nurses' Burnout (N=52)

Burnout	n	%
Mild	1	2%
Moderate	45	87%
High	6	11%
Total	**52**	**100%**

Based on Table 2, it can be illustrated that the majority of respondents experienced moderate burnout as many as 45 nurses (87%).

Bivariate Analysis

Bivariate analysis showed the relationship between age, gender, education, marital status with nurses' burnout (table 3 – 6).

Table 3. Relationship between age and nurses' burnout

	Pearson Chi-Square Tests (age)			
	Mild	Moderat	High	*p-value*
21 – 25	0	31	3	0,414
26 – 30	1	10	2	
>30	0	4	1	

Based on table 3 the majority of respondents aged 21-25 years experienced moderate burnout (31 respondents). The Pearson chi square test results for the association between age and burnout have a p value of 0.414, which is the p value > 0.05, indicating that there is no significant correlation between age and burnout in nurses.

Table 4. Relationship between gender and nurses' burnout

	Pearson Chi-Square Tests (Gender)			
	Mild	Moderate	High	*p value*
Male	1	39	4	0,404
Female	0	6	2	

Table 4 shows that 39 respondents, mostly men, reported moderate burnout. According to *Pearson chi square* test between gender and burnout can be seen the p value = 0.404 where the p value > 0.05, meaning that there is no significant relationship between gender and burnout in nurses.

According to Table 3.3, 38 respondents with a bachelor's degree reported having moderate burnout. According to the results of the *Pearson chi square* test between education and burnout, the p value = 0.069, where the p value > 0.05, indicates that there is no connection between education and nurse burnout.

Table 5. Relationship between gender and nurses' burnout

	Pearson Chi-Square (Education)			
	Mild	Moderate	High	*P value*
Associate (D3-nursing)	1	7	2	0,069
Bachelor (S1-Nurse)	0	38	4	

According to Table 5. 36 respondents who were not married reported having moderate burnout. And According to the results of the Pearson chi-square test, there is no significant correlation between marital status and burnout among nurses (p value = 0.429, p value > 0.05).

Table 6. Relationship Between Marital Status and Nurses' Burnout

	Pearson Chi-Square Tests (marital status)			
	Mild	Moderate	High	*P value*
No	1	36	6	0,429
Yes	0	9	0	

DISCUSSION

Burnout isn't just a state, but also a process. According to current statistics, burnout occurs between 35.3% and 50% of the time. Frontline healthcare workers are particularly susceptible to burnout symptoms, and their physical and emotional well-being requires specific attention. (Zhan et al., 2020). During this pandemic, nurses cope with infectious infections caused by highly contagious viruses and endure unstable psychological reactions (Lee & Choi, 2022).

Based on this result, the nurses' burnout was moderate (87%). In different with some previous research, the nurses' burnout was high (Heriyanto et al., 2022; Murat et al., 2021). Previous research found a significant prevalence of burnout during Covid-19 according to measure burnout index (MBI). The nurses were emotionally exhausted to a great extent. During Covid-19, nurses' emotions were challenged since they were in a high-risk group and had frequent interaction with patients; they also feared the effects of sickness (Galanis et al., 2021).

In this study, the majority of respondents aged 21-25 years experienced moderate levels of fatigue as many as 31 people. With age, a person typically grows more mature, steady, and determined, which helps him have a more mature and realistic perspective (Heriyanto et al., 2022). Younger healthcare professionals tend to use social media more frequently, and it can be a source of distracting information that worsens stress and burnout symptoms (H. Alanazi et al., 2020). According to several studies, nurses who are young and have little experience are more likely to feel burnout than those who are older and have more

expertise (Bisesti et al., 2021; Parker et al., 2014).

According to this result, it shown the majority of male gender experienced moderate burnout (75%). According to a meta-analysis of studies, male nurses had higher levels of burnout. Age, job satisfaction, position, clinical experience, and other moderator variables should be taken into account to derive more reliable conclusions about the impact of gender on nurses' burnout (Galanis et al., 2021). The findings of this study contradict earlier research that suggested women were more likely to become burned out. This is because women have a sense of responsibility in caring for patients professionally and also have conflicts in taking care of their families (Heriyanto et al., 2022).

Based on bivariate analysis, age, gender, education, and marital status did not significantly correlate with nurse burnout when caring for COVID-19 patients. Previous studies revealed no relationship between nurses' burnout and gender or marital status. Gender and marital status did not make a major contribution to job burnout, because all nurses were given the same workload. In addition, burnout is influenced by other factors such as age and working period, which is along with increasing age and length of work there is a decrease in concentration, stamina, and dexterity regardless of gender (Astuti et al., 2017).

Health workers, both male and female, have time to rest because taking breaks can be done according to the wishes of the individual worker to reduce the level of perceived fatigue. In addition, even though the gender is different, the implementation of the work is also influenced by factors of age and working time as well as the effect of adaptation of the worker's body based on years of service so that in this case, gender may not have a significant impact on the occurrence of differences in the level of employment work burnout (Malau & Eliska, 2019).

In addition, some research found that age, gender, educational level affected nurses' burnout, such as the level of depersonalization in men was higher than in women in terms of emotional exhaustion. Then, younger age, high education enhanced nurses' burnout (Galanis et al., 2021).

Based on the analysis, the majority of status marital was not married (single) experienced moderate burnout (69%). This study is like previous research that shows people who are not married engage in more daily activities outside of work hours, such as playing with friends and traveling. Some nurses who are single have trouble managing their time well and are still considering their own pleasure (Faizal et al., 2022). This study found that being single was linked to a disproportionately high level of emotional exhaustion (H. Alanazi et al., 2020).

The result of this study are contradictory with the previous research, where there is a significant relationship between age, gender, marital status, and education level with nurses' burnout (Faizal et al., 2022; Heriyanto et al., 2022; Octara et al., 2022; Zhan et al., 2020). Previous research has shown that age is related and influences burnout. It is shown that most of the young age tend to do activities both during working hours and outside of work activities that can cause fatigue. Every nurse must be skilled in performing nursing care and not classified by age (Faizal et al., 2022).

In addition to the typical demographic factors, there are physiological, cognitive, emotional, and sensory factors that arise from a heavy workload and insufficient rest. Among nurses, physical and mental fatigue may arise. (Zhan et al., 2020). Based on the causes of fatigue, the causes of fatigue are distinguished into physiological fatigue, namely fatigue caused by environmental (physical) factors at work, including: noise, temperature and psychological fatigue caused by psychological factors (mental conflicts), monotony of work, work due to forced, piles of work (Hutabarat, 2017). Regarding burnout, a study conducted in Brazil revealed that the nursing staff members who were assessed received high marks for the burnout syndrome's exhaustion and disengagement domains. This can be as a result of the complexity of patients admitted to the ICU, which can result in high levels of anxiety, depersonalization, and work-related discontent in addition to emotional tiredness (Meneguin et al., 2023).

In order to reduce health risks brought on by frontline nurses' increased work burnout and to improve their health status and create safe working conditions around the world, individuals, health authorities, and governments must develop and implement effective intervention strategies in accordance with relevant risk factors (Zhan et al., 2020). Additionally, rewards in the form of incentives for healthcare professionals have a significant role in preventing burnout since they provide material assistance that might enhance their welfare, which in turn affects their work ethic and morale (Octara et al., 2022).

Health care workers who got psychological support during and after a pandemic may be better able to control their emotions and moods when dealing with the fallout from such a tragic event (Galanis et al., 2021). Based on an evidence based, there are nine steps to increase involvement and reduce burnout steps that can be taken by nursing leaders and managers, namely: identifying and assessing problems, applying the power of effective leadership, planning and implementing interventions to be achieved, creating a sense of togetherness in the workplace , provide rewards and incentives wisely, balance values and strengthen culture, promote flexibility and work integrity, and pay attention to resources to support the resilience of resources (Kisa, 2020).

CONCLUSION

Nursing burnout is classified as moderate when it comes to caring for COVID-19 patients. Bivariate analysis revealed no evidence of a significant association between nurse burnout and age, gender, education level, or marital status. During the COVID-19 pandemic, nurse burnout is a critical issue. Therefore, there is an urgent need for nurses to prepare to deal with nurse fatigue during the pandemic, such as the human resource development and nurse manager has the program to balancing of nurses, equipment needed by nurses, and appropriate working hours for each nurse. For nurses can arrange the rest time well.

The results of this study can advance a more thorough understanding of the psychological factors and rescue work-related systems that contribute to elevated levels of burnout. They can also serve as a design cue for pertinent and effective burnout mitigation interventions, and they can inspire

actions to reduce burnout in the field facing the current pandemic. Further research can be carried out by identifying other factors that influence nurse burnout such as workload, work environment, organization, years of service using different instruments and research techniques. Suggestions can also be given to nursing management by providing rewards, managing staff properly and in a balanced manner, and providing significant motivation to nurses.

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