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MENTAL-EMOTIONAL DISORDER, FEAR AND DEPRESSION LEVEL OF EMERGENCY NURSES DURING PANDEMIC COVID-19: A COMPARATIVE STUDY

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ABSTRACT
Emergency nursing is specialized nursing that focuses on care that requires immediate medical attention to avoid long-term disability or death. During the COVID-19 pandemic, emergency nurses are on the front lines and must be prepared, and must be able to sort and select patients safely. However, emergency nursing services are very risky in transmitting exposure to the COVID-19 virus. This study aims to assess and compare the levels of mental and emotional disorders, depression, and anxiety suffered by emergency room nurses in the Intensive Care Unit, Operating Room, and Emergency Room. In this comparative study, we collected data from 92 nurses using a cross-sectional correlation design. In addition to the Sociodemographic Characterization, Psychoemotional Disorder Scale, Depression Scale, and COVID-19 Anxiety Scale. Levels of depression were higher in operating room nurses than in the intensive care unit and emergency room nurses (54.17 ± 14.08 vs 48.53 ± 11.92, p<0.01). (48.36 ± 13.40 vs 45.74 ± 11.79, p < 0.01). The pandemic is having a significant impact on the mental health of emergency room caregivers. New specific support measures should be formulated. More research is needed to focus on the psychological resilience of emergency department nurses.

Keywords: COVID-19; depression; emergency nurses; fear; mental emotional disorder

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INTRODUCTION

Emergency nursing is a specialty nursing specialty focused on the care of patients who require urgent medical attention to avoid long-term disability or death. Emergency nurse working in emergency room (ER), ICU room, and operating room (OR). An operating room nurse is a certified nurse who provides perioperative care to patients undergoing surgery and has standards, knowledge, judgment, and skills based on scientific principles, especially in the operating room (Forrester et al., 2020). Emergency and critical care nurses are certified nurses who specialize in the care of patients in emergency departments or intensive care units. Emergency nurses are often stressed, and the busy environment of the emergency room requires more than just normal nursing skills. When someone walks into an emergency room, intensive care unit, or operating room, there is usually a medical emergency, such as an injury or serious illness. Nursing staff must be able to respond quickly to minimize pain and stabilize

the patient. During the COVID-19 pandemic, emergency nurses are on the front line and have to be on call twice, unable to sort and select safe patients.

Coronavirus disease (COVID-19) is an infectious disease caused by a coronavirus that was just discovered at the end of 2019. Most people infected with COVID-19 will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people and those with other health problems such as cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop more serious illnesses. Since March 11, 2020, WHO has declared COVID-19 as a global pandemic where there are more than 118,000 cases in 114 countries and 4291 have died. Indonesia itself has declared COVID-19 a national disaster since March 14, 2020. On April 14, 2020, the Indonesian government recorded a total of 4,839 cases of positive COVID-19 patients being detected. Of these, 426 patients have recovered. Meanwhile, 459 patients died. The ratio of the number of dead cases to the total positive cases in Indonesia was recorded at 9.48 percent (WHO, 2020).

Health services in handling the COVID-19 outbreak are a priority of all services provided by the Government, including emergency nursing. Emergency nursing services are very risky in the transmission of exposure to COVID-19 which is transmitted between humans through close contact and droplets, as well as through airborne. These risks pose many dangers, especially for the patient and the emergency nurses. In particular, emergency nurses working in the operating room should comply with infection prevention and control measures in the perioperative environment, such as operating room environment, patient management flow management, and patient management in the ward, to prevent the spread of COVID-19 (Astin & Paembonan, 2021; Forrester et al., 2020; Ozomaro et al., 2013).

Emergency nurses experienced mental and emotional disorders in carrying out their duties, especially in terms of the use of PPE used when handling patients (Lei et al., 2020). Judging from the increasing cases of Covid-19 patients and also the number of nurses who were infected while carrying out their duties, some of the health workers felt anxious and lacked confidence in the use of the PPE they were wearing. The reports from WHO that the number of health workers who have experienced infection due to the coronavirus has reached more than 22,000 people and it has spread to 52 countries when treating and treating patients (WHO, 2020).

The prevalence of depression among emergency nurses while treating COVID-19 patients is 17.6% (Astin & Paembonan, 2021; Laile et al., 2012). During the COVID-19 pandemic, nurses have a bigger responsibility than before the presence of COVID-19 (Danu et al., 2021; Laile et al., 2012). This increases the likelihood of a stressor occurring higher because they have to provide social support directly or emotional support for the patient as a substitute for the patient's family who does not admit to the hospital because of transmission or transmission problems. The state of emergency of the pandemic has defined stressful working conditions for emergency nurses, especially ICU and ER nurses (Astin & Paembonan, 2021; Luchesi et al., 2018; Nayak et al., 2018).

Surgery which is one of the services of the health system with "emergency" and "elective" procedures is an important aspect that must be considered. The operating room can also be a high-risk area for respiratory infections (Ao et al., 2021). Additionally, asymptomatic carrier patients undergoing surgery may transmit the virus during the incubation period. A retrospective Chinese study of 34 asymptomatic patients aged 34 to 83 who underwent elective surgery at the onset of the pandemic found that they developed symptoms of COVID-

19 after surgery and tested positive for quantitative RT-PCR was analyzed after confirmation. A total of 44.1% of patients required postoperative intensive care, and he had a mortality rate of 20.5% due to ARDS (acute respiratory distress syndrome) (Lei et al., 2020). Symptoms of COVID-19 developed very quickly after surgery (2-6 days on average). The study concluded that surgery may accelerate and exacerbate the progression of this disease. Surgery not only destroys the immune system but also triggers an early inflammatory response (Park et al., 2014; Toubasi et al., 2021).

The preparations preoperative must be made by nurses during surgery on COVID-19 and non-COVID-19 patients are different so this is a source of stressor for nurses' fear in preparing for surgery. Nurses have played a critical role in the response to the COVID-19 pandemic and are a cornerstone of national defense in limiting and controlling the spread of the disease. Nurses are at the forefront of providing necessary services to suspected and confirmed COVID-19 patients, often in difficult circumstances (Susanti et al., 2023). In efforts to keep communities safe, caregivers are at high risk of contracting COVID-19, they can face dangers such as mental and emotional disorders, depression, or fear of COVID-19 (Wetan & Novianti, 2020). Mental health problems have become a part of human life and are an emotional response to the assessment of conditions that are threatening and depressing (Kurniawan et al., 2022). This feeling is characterized by the emergence of an unpleasant and vague feeling of fear often accompanied by symptoms of headache, palpitations, cold sweats, stiffness in the chest area, and mild stomach disorders (Heijer et al., 2011). This study aims to assess and compare mental health disorders, fear, and depression levels among emergency nurses during the COVID-19 pandemic. In addition, the influence of sociodemographic characteristics on variables should be examined.

METHOD

This quantitative study was a cross-sectional study. Involves 92 nurses in the emergency room, ICU, and operating room who works in three regional general hospitals owned by the Jakarta provincial government. The study population consisted exclusively of emergency room nurses working in the emergency room, operating room, and ICU room in three large hospitals belonging to the regional government in East Jakarta. Samples were collected using a targeted sampling method that considers nurses on duty as inclusion criteria in the COVID-19 area.

The study protocol used a four-part questionnaire. The first part contained questions to determine patient demographics. gender, age, and education level. The second part consisted of questions to determine the respondent's level of psycho-emotional disturbance, assessed using a self-report questionnaire (SRQ-20) as part of item 6. First and foremost, people are evaluated for the presence of physical and psychological symptoms. Respondents used the Gutman scale to indicate how often they experienced each symptom. The level decline over the past 7 days was measured by DASS. The severity rating index for each DASS subscale is as follows (Depression Disorder: Normal (0-9), Mild (10-13), Moderate (14-20), Severe (21-27), Extreme Severe (>28). Regarding the level of fear of the novel coronavirus disease (COVID-19), respondents were asked to indicate their level of fear. A novel coronavirus disease (COVID-19) fear (FCV-19) scale tool was developed by Ahorsu et al (2020, Danu, 2021), seven items were used, on a 5-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 ”). = strongly disagree", "agree"). The scores for all seven items are summed to give a total score. So the total score ranges from 7 to 35. Higher scores indicate greater fear of COVID-19. Cronbach's alpha for FCV-19 was found to be 0.87, and the test-retest reliability of 0.89.

Data analyzed using SPSS software (IBM SPSS Statistics 20.0). Initially, the data were checked for missing data and outliers. There was no missing data, the outliers were screened through visual assessment for scattered plot diagrams, which revealed no outliers. Box plots and histograms were used to check the normality, as well as linearity was checked by Pearson correlation, and homogeneity was checked by Levine's test. This study was performed by the Declaration of Helsinki, and approval was obtained from the Human Subjects Ethical Review Board Pasar Rebo Hospital Jakarta with Letter Number 414/SK.KEPK/UNR/XII/2021. However, ethics in this study emphasizes several principles, including informed consent, and participants are not required to include their full names or anonymity and explain confidentiality.

RESULTS

Characteristics of Emergency Nurses

We received 92 questionnaires (age 22+), all of which were valid, with a valid response rate of 100%. A total of 45 respondents (48.9%) were emergency department nurses, 27 (29.4%) respondents were intensive care unit emergency room nurses, and 20 (21.7%) respondents were emergency room nurses. was a nurse. Most respondents (100%) said he was 22-49 years old (Table 1).

Table 1.
Demographic and Characteristics of Emergency Nurses (n=92)

	ER nurses (n=45)	ICU nurses (n=27)	OR nurses (n=20)
Sex			
Male	26 (57,8%)	11(40,7%)	11(55 %)
Female	19(42,2 %)	16(59,3 %)	9(45%)
Age			
22 years	5(11,1%)	2(7,4%)	5(25 %)
23-35 years	26(57,8%)	19(70,4 %)	13(65%)
36-49 years	14(31,1%)	6(22,2%)	2(10 %)
Education			
Vocational	21(46,7 %)	10 (37%)	14(70%)
Profession	24(53,3 %)	16(59,3%)	6(30%)
Specialist	-	1(3,7%)	-
Mental Emotional			
Health (score < 6)	1(2,2%)	-	1(5%)
Disorder (score≥6)	44(97,8%)	27(100%)	19(95 %)
Depression			
Normal	-	-	1(5 %)
Mild	45(100 %)	7(25,9%)	15(75 %)
Severe	-	20(74,1%)	4(20%)
FCV			
Fear	44(97,8%)	26(3,7%)	20(100%)
Flat	1(2,2%)	1(96,3 %)	-

Factors Related Mental Emotional, Depression, and Fear of COVID-19 of the Emergency Nurses

Results were also significant when comparing levels of depression, psycho-emotional disorders, and fear of COVID-19 among emergency department, intensive care unit, and operating room nurses (P<0.01) (Table 2). The findings show that emergency department and intensive care unit nurses are more likely to suffer from depression and anxiety than nurses working in other areas (operating rooms). Psychiatric and affective disorders were compared. Among all participants, nurses showed higher levels of depression than female members of the hospital (P<0.01), approximately 48 men (52.2%). Interestingly, our results showed that nurses with lower levels of education reported less anxiety and depression than nurses with

higher levels of education. Among all participants, psycho-emotional disorders (SRQ scores) were higher in those with a bachelor's degree (professional) or lower (9.403.18 and 7.03±1.80).

Table 2.
Factors Related Mental Emotional, Depression, and Fear of COVID-19 of the Emergency Nurses (n=92)

	SD	t Test Value	p
Sex			
Male	46.72 (13.88)	3.24	<0.01*
Female	49.09 (13.14)	1.14	0.26
Age			
22 years	47.12 (12.03)	2.232	0.03*
23-35 years	48.50 (13.79)	0.9902	0.33
36-49 years	47.98 (14.09)	1.332	3.37
Education			
Vocational	9.40(3.18)	0.92	0.02*
Profession	8.67 (4.24	1.37	0,17
Specialist	7.96 (3.07)	2.61	0.37

The Mental Health Level of Emergency Nurses In Providing Care In The Covid And Non-Covid Wards

The results of the Emotional Mental Health Statistical Test for Emergency Nurses in Care Plan Delivery in COVID-19 and Non-COVID-19 Spaces are p It has a value of 0.026. This means that the p-value < Alpha (0.05) We can conclude that there is a significant difference in mental and emotional health status of emergency room nurses in COVID-19 and non-COVID-19 wards. The Average Difference value is 3.40. This value indicates a mean emotional mental health difference OR of 16.73-13.33 = 3.40 for emergency room nurses, and the difference between these differences ranges from 0.441 to 6.359 (95% confidence interval for upper and lower differences). The T-Count value is 2.354 and the T-Table is 2.04227. Therefore, we conclude that there is an average difference in mental health and emotions between emergency room nurses in COVID-19 and non-coronavirus wards, based on decisions made by comparing T-count values with T-tables can be attached -19- station. Respondents caring for patients who tested positive for COVID-19 did not care for patients who tested positive for COVID-19. reported higher levels of depression, psycho-emotional disorders, and anxiety compared with those who did not (p<0.001) (Table 3).

Table 3.
The Difference in The Mental Health Level of Emergency Nurses In Providing Care In The Covid And Non-Covid Wards (n=92)

Practical area	Mean (SD)	Mean difference	P-value	t	95%-CI
Covid-19 R oom	16.73 (3.218)	3,40	0,026	2.354	0.441-6.359
Non-covid-19 Room	13.33 (4.577)				

Emergency Nurses Regarding Mental Emotional Disorder, Depression, And Fear Of COVID-19

The OR nurses' depression level was higher than nurses in ICU and ER (54.17±14.08 vs. 48.53±11.92, p < 0.01), while the most fear of COVID-19 are in ER (48.36±13.40 vs. 45.74±11.79, p< 0.01) (Table 4).

Table 4.
Oneway ANOVA Results For Emergency Nurses Regarding Mental Emotional Disorder, Depression, And Fear Of COVID-19 (N=92)

Outcomes Variables	Independent Var	Mean + SD	Df	F Value	pValue
GME	ER nurses	22.73+9.99	363	3.809	0.000
	ICU nurses	21.18±10.54	4,360	7.376	0.000
	OR nurses	4.37±1.23	4,360	4.939	0,001
Depression	ER nurses	48.53±11.92	363	3.418	0.001
	ICU nurses	19.52±10.91	4,360	5.770	0.000
	OR nurses	54.17±14.08	8,360	4.939	0,001
Fear of COVID	ER nurses	48.36±13.40	363	3.644	0.000
	ICU nurses	22.29±6.69	4,360	5.553	0.000
	OR nurses	5.27±1.03	4,360	4.799	0,001

DISCUSSION

Principal finding

The mental emotional disorder level of emergency nurses with COVID-19 patients, most nurses had mild mental emotional disorder. This is consistent with previously conducted, which showed that many nurses had mild anxiety and nurses' anxiety in handling Covid-19 patients, moderate anxiety, severe anxiety, and panic. A mental-emotional disorder is an unclear feeling of fear accompanied by feelings of uncertainty, insecurity, helplessness, and isolation (Alexander et al., 2021; Fountoulakis et al., 2008; D. Zhang et al., 2018). It is based on the theory of rating anxiety levels according to the Hamilton Rating Scale for Anxiety (HRS-A) (Ardan et al., 2020).

According to the researcher's assumptions, the results show that most nurses only experience moderate and mild anxiety, this shows that surgical nurses at hospitals are already accustomed to conditions during a pandemic, where the use of PPE and procedures (SOP) for surgery preparation for COVID-19 patients have been evaluated well and experience in surgery preparation for approximately 1-2 years provides good competence and socio-economic support for surgical nurses to motivate carrying out surgery (Alexander et al., 2021; D. Zhang et al., 2018). Nurses experience mild anxiety, this is because while they are on duty they live separately from their families, so The risk of passing the virus on to family members is very low (Alnazly et al., 2021; Çelik & Kiliç, 2022; Kisely et al., 2020; Fountoulakis et al., 2008). The moderate and mild level of anxiety achieved by surgical nurses did not occur immediately, this was the result of the hard work of nurses at the beginning of the pandemic, At the start of the Covid-19 pandemic and if there was a decrease during the period this study was conducted during the Covid-19 pandemic (Benze et al., 2021).

The results showed that there is a difference in anxiety between the emergency nurses in the COVID-19 ward and non-COVID-19, so the researchers conclude that the average result of an increase in the anxiety of surgical nurses when preparing for surgery for COVID-19 patients occurs because the risks that surgical nurses have to face are higher. This is high, where the risk of contracting the COVID-19 disease is greater, compared to nurses who prepare for surgery for Covid-19 patients. In addition, the use of more and more complex PPE is quite burdensome during operation preparation activities until it is finished, providing a greater workload and stress to nurses who carry out preparations for operations for COVID-19 patients (Tang & Chan, 2020; Xu et al., 2018). This is also because respondents do not have much experience dealing with stress so their coping mechanisms still need to be well-formed.

Mental-emotional disorder faced by nurses tends to experience depression because they are worried that they will transmit the virus to family members (Han et al., 2018; Zhifeng & Yin, 2021).

A previous study shows levels of caregiver anxiety in all rooms, including moderately anxious and panicked (Alexander et al., 2021; Fountoulakis et al., 2008; D. Zhang et al., 2018). The psycho-affective disorder is a natural affective disorder characterized by persistent feelings of worry and fear, but the disorder is not experienced (Burri et al., 2018). In fact, personality is still intact and behavior is disordered, but still within normal limits (Stuart & Sundeen, 2016). According to the assumption, the researcher concluded that the level of fear of emergency nursing due to the decline in cases of covid-19 patients in mid-2021, as well as operating procedures and PPE. which is getting better, supported by a good screening process from the beginning of the patient entering, then an antigen swab examination and PCR test are carried out to ensure that the patient to be operated on is a non-covid-19 patient, all procedures and service flow that are controlled and evaluated provide a sense of security and assurance to the surgical nurse. The fear level of emergency nurses was also not severe and panicked because they believed in the results of tests and procedures at the RSUD. The experience of taking action on Covid-19 patients also provides confidence and motivation in preparing for surgery for non-covid-19 patients. Strict health protocols in the operating room are also carried out well, sterile rooms and equipment provide a sense of security to the surgeon. Nurses who experience mild anxiety feel that they have no risk of transmitting the COVID-19 disease because they have taken precautions from the beginning of the patient's admission. Another studies show that there is a mean difference in the anxiety of operating room nurses when preparing COVID-19 and non-COVID-19 patients for surgery (Lei et al., 2020).

The study concluded that surgery may accelerate and exacerbate the progression of this disease. Surgery not only weakens the immune system, it also triggers an early inflammatory response. The operating room nurses in the operating room are under a special strain because the symptoms of COVID-19 may not appear until surgery is performed. This is consistent with a previous study, that showed differences in anxiety levels between nurse specialists and nurse specialists at Kumara General Hospital. In Siwi Quds, the anxiety level of nurse specialists is higher than that of nurse specialists (Danu et al., 2021).

Because of the different preparations that nurses must make during surgery for COVID-19 and non-COVID-19 patients, this is a source of anxiety and stress for nurses in preparing for surgery. Health workers play a critical role in the response to the COVID-19 pandemic and are a cornerstone of national defense in limiting and controlling the spread of the disease (Stuart & Sundeen, 2016). Health workers are on the front lines of providing much-needed services to suspected and confirmed COVID-19 patients, often in difficult circumstances. In their efforts to keep their communities safe, police officers are at high risk of contracting COVID-19. Civil servants may face risks such as psychological stress, prejudice, and mental exhaustion (Sun et al., 2020). One mental disorder cleaning nurses may experience when dealing with the COVID-19 pandemic is the fear of getting sick during surgery on COVID-19 patients. Anxiety has become a part of human life and is an emotional response to the assessment of conditions that are threatening and depressing. This feeling is characterized by the emergence of an unpleasant and vague feeling of fear often accompanied by symptoms of headache, palpitations, cold sweats, stiffness in the chest area, and mild stomach disorders (Amin et al., 2020; Nemeroff, 2008; Yan et al., 2022).

Researchers say that during this pandemic period, the spread of COVID-19 is so large and rapid that there is a need to There is a difference in the anxiety of operating room nurses. It is very difficult to see with the naked eye, and it frightens the nurses working in the operating room. Therefore, operating room nurses preparing for surgery on COVID-19 patients experience higher levels of anxiety than operating room nurses preparing for surgery on non-COVID-19 patients (Garc´ıa-Fern´andez et al., 2020; Maroto et al., 2021; G. Zhang et al., 2021).

This study has noteworthy limitations.The number of samples size that only represent local government hospitals, does not involving emergency nurses in private hospitals who may have experienced mental emotional disorders, depression and different levels of fear because they are supported by better service facilities than government hospitals. It could result in respondent bias due to the group's heterogenity, such as in the age, background of education and gender of participants. This could reduce the results' generalizability.This point should be addressed in future studies in order to compare mental emotional disorder, depression and fear level among ED nurses in private hospital.

CONCLUSION

Our Study Demonstrates the Presence of Psychoemotional Disorders, Depression, and Anxiety Disorders in Emergency Department, Intensive Care Unit, and Operating Room Emergency Room Nurses During the COVID-19 Pandemic it was done. Factors associated with psycho-affective disorders include male gender, age (young adulthood), and low level of education. The impact of these factors may be related to the environment in which nurses work. The average mental and emotional level of emergency nurses in implementing care plans for patients with COVID-19 was 16.73, compared to 13.33 for non-corona patients, showing the difference in the increase in mental and emotional levels of emergency nurses. was ±3.40. Operating room nurses had higher depression scores than her ICU and ER nurses, but her biggest fear of COVID-19 is in her ER. This research suggests that new, specific supportive interventions need to be developed. Emergency nurses are expected to maintain the physical and mental health and condition to adequately perform their duties in responding to emergencies for both COVID-19 and non-COVID-19 patients. Hospitals must continue to adhere to strict COVID-19 control procedures to ensure that caregivers and family members are not at risk of catching COVID-19 when patients are admitted. Mental health resilience plays an important role in protecting caregivers and reducing the prevalence of emotional distress.

The results show that no nurses experience severe anxiety or panic, no operating room nurses prepare COVID-19 patients for surgery, and no non-Covid-19 patients. This has been made possible by the fact that most nurses have become accustomed to the conditions of patients who are about to undergo surgery in the midst of a pandemic that has lasted for about two years, especially with the various preventive measures such as PCR swab testing and the use of swabs. It's for. In addition to the provision of PPE, surgical nurses performing COVID-19 operations will be provided with various benefits to motivate patients to perform these actions.

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