

Psychological Responses Among Indonesian Nurses In The Outbreak Of Covid-19 Pandemic

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Abstract

An unprecedented outbreak of the newly emerging infectious disease of Covid-19 with rapid increases globally and in Indonesia may result in psychological distress among nursing staff. The present study aimed to identify psychological responses among nurses in the Covid-19 pandemic in Indonesia. A cross-sectional data were collected from 535 nurses working in 119 hospitals from 24 provinces in Indonesia using Depression Anxiety Stress Scale (DASS-42) and sociodemographic questionnaire. Data were collected using an online survey and analyzed with descriptive and Chi-squared tests. Analysis showed among the respondents, 23.7% (n = 127) had moderate anxiety, 6.5% (n = 35) had moderate stress and 8.8% (n = 47) had moderate depression. Anxiety, stress, and depression were significantly higher among nursing staff in the emergency department and Covid-19 isolation ward. Nursing staff, especially those working in the departments mentioned above, were more susceptible to psychological impairment. Effective strategies toward improving their psychological status should be provided among the nurses.

Keywords: Covid-19 pandemic, psychological responses, work stress

Introduction

The novel coronavirus (Covid-19) was first identified in Wuhan, China, in December 2020 among a cluster of patients with pneumonia of unknown cause, which was linked to the Huanan South China Seafood Market (Kang et al., 2020). On January 30, 2020, the WHO declared the Chinese outbreak of Covid-19 to be a Public Health Emergency of International Concern, posing a high risk to countries with vulnerable health systems (WHO, 2020). The disease rapidly spread throughout international countries and becoming a newly emerging infectious disease that had a global effect (Adihikari et al., 2020; Ali et al., 2020). The total number of Covid-19 cases in Indonesia on April 1, 2020, was 1.677 confirmed cases across 32 provinces (Indonesian Covid-19 Task Force, 2020).

The psychological responses of nursing staff have been greatly challenged during this viral pandemic. In battling the sudden emergence of Covid-19, 22.4% of medical and nursing staff in Wuhan had moderate mental health disturbances. The study demonstrated that a substantial portion of health care providers in virus-plagued Wuhan suffers from mental health disturbances. Contacting infected people and working at high risk have impacted medical and nursing staff's mental health (Kang et al., 2020). This condition may also have affected the psychological distress of nursing staff in Indonesia. This is the first nursing psychological investigation in the wake of the coronavirus pandemic in Indonesia. Therefore, the aim of this study was to identify the psychological distress among the nurses in Indonesia during the Covid-19 pandemic.

Research Method

Across-sectional survey was conducted online among nurses working at 119 hospitals from 24 provinces spread over Java, Sumatera, Kalimantan, Sulawesi, Maluku, Bali dan Nusa Tenggara in Indonesia. The nurses were invited to participate in this survey from April 15, 2020, to April 21, 2020. Nurses working at primary health care and home care were

excluded. A total of 535 nurses participated in the survey. This study was approved by the Research Ethics Committee of Medicine Faculty Universitas Andalas (No: 282/ KEP/ FK/ 2020). Data were collected using an electronic questionnaire via the internet. All respondents were provided with informed consent electronically before registration. The scholarly consent page presented options (yes/no). Only respondents who consented were allowed to access the questionnaire page. Respondents could withdraw from the process at any time.

The questionnaire consists of two main sections. The first section consists of questions concerning sociodemographic characteristics of the participant, including age, gender (male or female), marital status (unmarried or married), level of education (diploma, bachelor, nursing degree, magister, and nurse specialist), and department (emergency department, Covid-19 isolation ward, intensive care, general ward, or outpatient unit). Depression Anxiety Stress Scale (DASS-42) (Lovibond & Lovibond, 1995) was used in the second section of the questionnaire to evaluate nurses' psychological responses during the pandemic of Covid-19. The data divided into five categories normal (1), mild (2), moderate (3), severe (4), and highly severe (5). Data were analyzed using descriptive statistics (frequency, percentage, mean and standard deviation). A chi-squared test was performed to examine differences between anxiety, stress, depression, and working unit. The level of significance was considered as $p < 0.05$.

Research Results

In total, 535 participants completed the survey. The mean age of the participants was 33.72 (SD \pm 7.03). The majority of the participants were female (72.9%), were married (80.0%), and have an educational level of diploma (51.1%). A total of 40.0% of participants worked in the general ward, 10.1% worked in the emergency department, and 14.8% worked in the Covid-19 isolation ward (Table 1).

Tabel 1. Demographic Characteristics (n = 535)

Characteristics	No. (%)	Mean ± SD
Age		33.72 ± 7.03
Gender		
Male	145 (27.1)	
Female	390 (72.9)	
Marriage		
Unmarried	107 (20.0)	
Married	428 (80.0)	
Education level		
Diploma	279 (52.1)	
Bachelor	36 (6.7)	
Nursing degree	206 (38.5)	
Magister	8 (1.5)	
Nurse specialist	6 (1.1)	
Working unit		
Emergency department	54 (10.1)	
Covid-19 isolation ward	79 (14.8)	
Intensive care	91 (17.0)	
General ward	258 (48.3)	
Outpatient unit	53 (9.9)	

The analysis reported moderate level of anxiety, stress and depression at 23,7% (n = 127), 6.5% (n = 35), 8.8% (n =47) respectively (Table 2).

Tabel 2. Level of Anxiety, Stress, and Depression

Variables (n (%))	Normal	Mild	Moderate	Severe	Extremely Severe	Total
Anxiety	277 (51.8)	69 (12.9)	127 (23.7)	52 (9.7)	10 (1.9)	535 (100)
Stress	424 (79.3)	68 (12.7)	35 (6.5)	5 (0.9)	3 (0.6)	535 (100)
Depression	414 (77.4)	66 (12.3)	47 (8.8)	5 (0.9)	3 (0.6)	535 (100)

Table 2 shows the differences in the anxiety, stress, and depression levels between various nurses working unit. The story of anxiety, stress and depression were significantly associated with the department where the nurses worked at the time of data collection ($p = 0.005$). Compared with those working in the Covid-19 isolation ward, participants operating in the emergency department were more likely to report severe symptoms of anxiety [9 (11.4%) vs 13 (24.1%)] and stress [1 (1.3%) vs 1 (1.9%)], but not depression (Table 3).

Tabel 3. Comparison of Anxiety, Stress, and Depression between Different Departments

Variables	Categories	Anxiety (n (%))					p	Stress (n (%))					p	Depression (n (%))					p
		1	2	3	4	5		1	2	3	4	5		1	2	3	4	5	
Department	Emergency department	23 (42.6)	10 (18.5)	6 (11.1)	13 (24.1)	2 (3.7)	0.005	32 (59.3)	13 (24.1)	7 (13.0)	1 (1.9)	1 (1.9)	0.038	40 (74.1)	4 (7.4)	9 (16.7)	0 (0)	1 (1.9)	0.027
	Covid-19 isolation ward	42 (53.2)	10 (12.7)	18 (22.8)	9 (11.4)	0 (0)		67 (84.8)	7 (8.9)	4 (5.1)	1 (1.3)	0 (0)		62 (78.5)	7 (8.9)	9 (11.4)	1 (1.3)	0 (0)	
	Intensive care	47 (51.6)	14 (15.4)	27 (29.7)	2 (2.2)	1 (1.1)		77 (84.6)	9 (9.9)	4 (5.1)	0 (0)	1 (1.1)		77 (84.6)	13 (14.3)	0 (0)	0 (0)	1 (1.1)	
	General ward	139 (54.1)	30 (11.7)	63 (24.5)	21 (8.2)	4 (1.6)		210 (81.7)	32 (12.5)	12 (4.7)	2 (0.8)	1 (0.4)		200 (77.8)	34 (13.2)	20 (7.8)	3 (1.2)	0 (0)	
	Outpatient unit	26 (48.1)	5 (9.3)	13 (24.1)	7 (13.0)	3 (5.6)		38 (70.4)	7 (13.0)	8 (14.8)	1 (1.9)	0 (0)		35 (64.8)	8 (14.8)	9 (16.7)	1 (1.9)	1 (1.9)	

¹ normal
² mild
³ moderate
⁴ severe
⁵ extremely severe

Discussion

The Covid-19 outbreak poses a potentially serious health challenge to large numbers of people around the world. This is the first psychological investigation during the Covid-19 pandemic in Indonesia that aims to explore the level of anxiety, stress, and depression of nursing staff as frontline health workers and examined their relationship with nurses working department. The majority of the respondents were found to experience every day to a mild level of anxiety, stress, and depression among participants. Previous studies reported a high prevalence rate of anxiety, depression, and obsessive-compulsive symptoms among health care workers during the Covid-19 pandemic (Zhang et al., 2020). The nurses also showed excitability, irritability, unwillingness to rest, and psychological distress signs (Chen et al., 2020). As the leading force in treating patients, nurses face significant risks and challenges on the front line of the anti-epidemic battle (Lai et al., 2020; Wang et al., 2020).

There were several reasons for psychological distress among nurses as frontline workers, such as insufficient understanding of the virus, the high risk of exposure to patients with Covid-19, lack of prevention, the long-term workload, and the exposure to critical life events (Zhang et al., 2020). On the other hand, long-term pressure can activate the sympathetic adrenal medulla system and hypothalamus-pituitary-adrenal axis, a stressor component response that impacts physical and mental health. In summary, early mental health services for

nurses are necessary even for normal and mild psychological reactions during this pandemic to attenuate the possibility of escalating complications (Kang et al., 2020).

In this study, 23.7% of nursing staff have moderate anxiety levels, and less than 10% of nurses were in mild stress and depression. Exposure to significant events or disasters has been associated with a variety of mental health consequences. Although most peoples cope well in the face of events, a substantial proportion experience some psychological impairment, and a smaller proportion will cause developmental disorders (Goldmann & Galea, 2014; Oh et al., 2017). Suffering is a significant event that impacts psychological responses, and mental health effects may last longer. Therefore, there is a need to better recognize mental health needs as an essential component in challenging the Covid-19 pandemic (Kang et al., 2020). In Second Xiangya Hospital, a detailed psychological intervention was developed to respond to the staff's psychological pressures. They provided online courses to guide medical staff to deal with psychological problems, building a psychological assistance hotline team, and psychological intervention, which provided various group activities to release stress (Chen et al., 2020). During this situation in Indonesia, a large rapid response team essentially to better protect nurses psychologically with face-to-face counseling or intervention using phone cell was mobilized.

In this study, the level of anxiety, stress, and depression among nurses were significantly associated with the working department.

Respondents who worked in emergency nursing were the most worried about the pandemic. Interestingly, previous studies showed that mental health impacts of the Covid-19 pandemic are related to department or working unit (Kang et al., 2020). Most nurses in the emergency department said they felt anxious under the challenges of changes in the working environment and work processes (Sun et al., 2020). As with a previous study in Wuhan, China, frontline health care workers reported more severe degrees of all measurements of mental health symptoms than other health care workers (Lai et al., 2020). Emergency nursing was the first frontline taking care of the patients from prehospital activities. While procedures are strictly adhered to in infectious disease departments, many the highly contagious virus risk due to potential exposure for nurses in the emergency department and caused more significant psychological distress comparing other divisions during this pandemic.

In addition, 22.8% of the Covid-19 isolation ward nurses have a moderate level of anxiety dan 11.4% of nurses have a moderate level of depression. A previous study showed that staff working in the departments with high-risk contact with patients exhibited significantly greater fear, anxiety, and depression than the low-risk contact staff. Directly contacting confirmed patients, the shortage of protective equipment, suspected patients concealing medical history all these could increase the risk of being infected for them (World Health Organization, 2020) (Lu et al., 2020).

Our findings have clinical and policy implications. Health authorities need to identify high-risk groups based on nurse's department workplace and sociodemographic information for early psychological interventions. Data suggest that the emergency department and the Covid-19 isolation nurses suffered a more significant psychological impact of the outbreak and higher levels of stress, anxiety, and depression.

Conclusion

In this survey study of nurses in Covid-19 referral hospital in Indonesia, nurses as

frontline workers responding to the spread of Covid-19 reported high rates of symptoms of anxiety, stress, and depression. These findings emphasize the importance of being policy and psychological support for nurses as frontline workers and protecting nurses as a critical component of public health measures for addressing the Covid-19 epidemic. Our study has several limitations; most participants (85%) were from Jawa and Sumatra, limiting the generalization of our findings to less-affected regions. In addition, this study was carried out during seven days and lacked longitudinal follow-up. Future work should attempt to replicate the current results with larger samples, further predictors and correlates of stress, and a greater range of demographic indicators.

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