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Factors Associated with Nurses' Fears in Caring for Patients with COVID-19

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Abstract

Background: Nurses face a high risk of experiencing excessive fear while caring for patients with COVID-19. However, to our knowledge, no study has yet explored the factors associated with nurses' fears when caring for patients with COVID-19.

Aim: The present study aimed to analyze the factors associated with nurses' fears when caring for COVID-19 patients in Indonesia.

Method: This cross-sectional study was conducted on 591 nurses caring for COVID-19 patients. The nurses were recruited from 26 provinces in Indonesia using a purposive sampling method in April 2020. The instruments consisted of a sociodemographic characteristics form and a valid instrument to explore nurses' fears. Data were analyzed using SPSS software (version 23).

Results: In total, 86.8% of the nurses felt fear when caring for COVID-19 patients. Moreover, despite using personal protective equipment, 83.8% of participants answered that they feared getting infected with the virus while caring for patients, and 87.5% of the participants feared that their families might become infected with the virus. Among the nurses who cared for COVID-19 patients, 91.2% feared they might pass the disease on to their families at home. Age, marital status, infection prevention control training, and nurses' education level were significantly related to nurses' fears ($P<0.05$, CI 95%).

Implications for Practice: The excessive fear in nurses who care for COVID-19 patients is a major issue for nursing managers. Provision of viral transmission prevention and control programs, self-esteem improvement activities, and having pandemic course subjects in the nursing education curricula can help nurses become more aware and ready to face a pandemic.

Keywords: COVID-19, Fear, Indonesia, Nurses

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Introduction

At the end of December 2019, Chinese health authorities confirmed the first case of coronavirus disease (COVID-19) in Wuhan, the capital of Hubei Province in China. The disease then spread to 26 countries worldwide within three months (1). The World Health Organization (WHO) assessed this outbreak and decided that COVID-19 should be categorized as a pandemic due to its alarming rate and severity (2). In addition, the spread of COVID-19 occurs through the exact mechanism as the common cold or influenza virus, including direct contact with sneezing or coughing individuals and/or contact with the secretions of an infected person, which allows the virus to spread rapidly (3).

This infectious disease spread worldwide, including to Indonesia. At the beginning of March 2020, the government of Indonesia announced the detection of two COVID-19 cases in the country, in the small but dynamic city of Depok, West Java. The number of new cases of COVID-19 rapidly increased and reached 3,842 in early April. In the first week of May, the total number of COVID-19 cases exceeded 11,000 in Indonesia (4). This situation caused fear among all healthcare workers (HCWs) in Indonesia, some of whom have passed away after caring for COVID-19 patients. Due to the fact that nurses are front-line HCWs who handle COVID-19 and are in close contact with patients, they are at a very high risk of exposure (5). In Indonesia, the Ministry of Health reported that 12 nurses died due to infection with COVID-19 while working, and hundreds of others were infected and received hospital care (6).

Indonesian nurses are currently faced with challenges including the high risk of contracting the virus, the high number of COVID-19 patients, and the limitations of personal protective equipment (PPE), which can cause fear. The results of initial interviews with several nurses at COVID-19 hospitals in Indonesia showed that they expressed a fear of being infected with the virus, despite using PPE and were worried about returning home after work due to a fear of transmitting the virus to their children or parents, namely the populations most vulnerable to COVID-19 transmission. Some nurses have refused to work and have asked to be transferred due to obligations associated with caring for COVID-19 patients. Indonesia is a low-middle-income country. Our archipelago-shaped country consists of 37 provinces with respective cultures. To our knowledge no research has been conducted on the fear of Indonesian nurses caring for COVID-19 patients; therefore, this study aimed to analyze the factors associated with nurses' fears in caring for COVID-19 patients in Indonesia.

Methods

Participants and sampling

This study is a cross-sectional survey conducted on an online platform managed by Google Forms. We approached them to explain the research and seek their consent to participate. Our study was undertaken with a nurse caring for COVID-19 patients in April 2020. The study was approved by the Ethical Committee of Universitas Indonesia (SK-163/UN2.F12.D1.2.1/ETIK2020).

Purposive participants were selected out of 591 participants from 26 provinces in Indonesia who met the following inclusion criteria: 1) nurses currently caring for COVID-19 patients in Indonesia and 2) nurses working in a COVID-19 patient referral hospital or Wisma Atlet COVID-19 emergency hospital. All participants who met the inclusion criteria and gave informed consent were included in this study.

Instruments

Demographics

The assessed sociodemographic variables included age, gender, marital status, having children, length of work, workplaces, work units, infection prevention training, and education level.

Questionnaire on Nurses' Fears

An instrument to explore nurses' fears was developed in Bahasa Indonesia (Indonesian Language). It contained eight items with Yes/ No answer choices. Each Yes answer scored zero point, and each No answer scored one point. The total score for this questionnaire was in the range of 0-8. Participants with a total score of equal to or less than 4 were categorized as afraid. Tests of validity and reliability involved 30 nurses. The measured value of the r table (0.376) showed that all the questions were valid, while the range of the corrected item-total correlation of all subscales (0.774 -0.948) was higher

than the r table (7). The Cronbach's value was 0.910.

Statistical analysis

Data were analyzed using a computer statistical program. Data were presented as mean, standard deviation (SD), median, and interquartile ranges (IQR) for continuous variables and as frequencies and percentages for categorical variables. The correlation between age and the nurses' fears was analyzed using a Pearson correlation analysis. The correlation of nurses' fear with gender, marital status, having children, length of working, workplace, work unit, infection prevention training, and education level was analyzed using a chi-square test. The level of statistical significance was set at $P<0.05$.

Results

The nurses' sociodemographic characteristics are summarized in Table 1. Out of the 591 nurses with a mean±SD age of 33.7±7.31 years who participated in the survey, 150 (25.4%) were male and 441 (74.6%) were female. In addition, most participants were married (72.3%) and had children (65%). Generally, the majority (95.3%) of nurses were working in a hospital, especially in isolation wards (55.5%), and many (47.4%) had a diploma degree. On the other hand, more than half of the participants (57.5%) had never received training related to infection and prevention control.

Table 2 presented the source and type of nurses' fears in caring for COVID-19 patients. Most (86.8%) of the nurses experienced fear of being in contact with COVID-19 patients. More than half of the nurses (86.8%) felt fear while caring for COVID-19 patients. Despite using PPE, 495 (83.8%) respondents answered that they feared getting infected with the virus while caring for COVID-19 patients. In addition, 87.5% of the participants feared their families might become infected. Moreover, 91.2% of the participants feared they might pass the disease to their family members at home.

Bivariate analysis showed that age and marital status were significantly related to nurses' fears ($P<0.05$, CI 95%). In addition, completing infection prevention control training and nurses' education level were related to nurses' fears ($P<0.05$, CI 95%). Table 3 shows the correlation between Indonesian nurses' demographic characteristics and fear.

Table 1. Frequency of demographic variables in nurses (n = 591)

Variables		Result
Gender	Male	150 (25, 4%)
	Female (%)	441 (74.6%)
Length of working	< 1 year	58 (9.8%)
	1-10 year	313 (53%)
	> 10 year	220 (37.2%)
Workplaces	Hospital	563 (95.3%)
	Primary health facilities	28 (4.7%)
Work unit	Emergency department	91 (15.4%)
	ICU/ High care unit	83 (14%)
	Surgical and anesthesia room	18 (3%)
	Isolation ward	328 (55.5%)
	Outpatient department	47 (8%)
	Other units	24 (4.1%)
Education level	Diploma degree	280 (47.4%)
	Bachelor degree	54 (9.1%)
	Registered Nurse	222 (37.6%)
	Master degree	29 (4.9%)
	Nurse specialists	6 (1%)

Table 2. Frequency and percentage of Indonesia nurse's source of fear

Survey Question	Frequency	Percentage (%)
Do you have a fear of being infected with the COVID-19 virus when caring for patients with COVID-19, despite using personal protective equipment?	495	83.8%
Do you pray more frequently (to God) since the beginning of the COVID-19 epidemic?	448	75.8%
Does your family feel fearful about the COVID-19 epidemic?	517	87.5%
Are you fearful of passing on the infection to your family at home when treating a COVID-19 patient?	539	91.2%
Are you afraid to interact with people when you care for COVID-19 patients?	436	73.8%
Do you have problems with your physical and psychological symptoms after caring for patients with COVID-19?	27.4	46.4%
Do you have sleeping problems since you have cared for COVID-19 patients?	179	30.3%
Are you afraid of having the COVID-19 virus in your body after taking off all personal protective equipment, bathing, and changing clothes?	446	77.5%

Table 3. Correlations between Indonesia nurses demographic characteristics and fear (n=591)

Variables	P-value	r
Age	0.0001	0.32
Gender	0.37	0.11
Marital status	0.04	0.22
Having children	0.11	0.15
Length of working	0.36	0.09
Workplaces	0.86	0.13
Work unit	0.09	0.32
Infection prevention training	0.02	0.43
Education level	0.02	0.47

Discussion

The increasing number of COVID-19 patients worldwide, including in Indonesia, is a challenge for nurses. The high risk of contracting the COVID-19 disease, the unavailability of medication, and the high mortality rate of health workers are potential causal factors of fear among nurses who care for COVID-19 patients. If fear becomes an overwhelming problem, it potentially affects the provision of services to COVID-19 patients in an optimal condition. Our results showed that most (86.8%) nurses experienced fear when caring for COVID-19 patients. The components of fear evaluated in this study were the fear of being infected with the virus despite using PPE, fear of passing the disease to family members at home, fear of interaction with others, and fear of carrying the COVID-19 virus, even after taking off PPE, bathing, and changing clothes. These fears can lead to a perceived uncertainty and a feeling of incompetence in demonstrating the ability to care for patients. This perceived uncertainty became significant when the nurses thought that they had not been provided with sufficient training on infection control.

Reducing the risk of nosocomial outbreak amplification through the transmission of COVID-19 to other patients and HCWs is of critical importance (8). The issue of nurses' fears requires attention due to the potential impact of this fear on the quality of nursing care. The fear that nurses experience when in contact with patients will influence their capability to provide care. Feelings of fear can lead to losing focus, and therefore, nurses may not perform their best in caring for patients. The study conducted by Tzeng investigated the relationship between nurses' fears and fulfillment of workplace obligations during the SARS pandemic in Taiwan (9). The results indicated that the participants were willing to provide care for their patients since they viewed it as their duty. Moreover, in the face of such contagious large-scale public health events, nurses are under physical and psychological pressure during caring for COVID-19 patients (10). Therefore, the fear that nurses in Indonesia experience

when caring for COVID-19 patients must be an essential concern for achieving optimal nursing services.

This study showed that sociodemographic characteristics such as age, marital status, and infection prevention training influenced the nurses' fear. The mean age of nurses showed that they all were in the adult age group. This is similar to the results of the study conducted in the United States in which the majority of the healthcare personnel caring for COVID-19 patients were female and in the age range of 16-44 years (11). In Indonesia, young nurses (nurses under the age of 35) are required to work in hospitals during the pandemic (12). The reason is that young nurses are considered to have higher physical stamina and productivity than older nurses (13). Another study showed that the human brain undergoes substantial development throughout adolescence and during early adulthood, wherein the maturational process is thought to include the refinement of connectivity between putative connectivity hub regions of the brain, which collectively form a dense core that enhances the functional integration of anatomically distributed and functionally specialized neural systems that can increase the self-esteem (14). We assume that the age of the majority of the nurses in this study is associated with the maturity of thought and spirituality.

Most (72.3%) of the study participants were married. Ayyala reported that the fear of transmitting the virus to family members after work has been one source of fear in HCWs during the COVID-19 pandemic (15). This is consistent with the results of this study, as 91.2% of respondents described a fear of passing the disease to their families after providing care to a patient with COVID-19. Marital closeness can have an apparent downside when one partner has mental or physical health problems (16). The majority of nurses are female, and female workers may face more work fatigue, family responsibilities, and inequality (17). In addition, one result of the study was that during the COVID-19 crisis female workers were in a dilemma between work and family care and between family care and avoiding contact with family members (18).

Previous education about infection control and education level showed a relationship with nurses' fear. The nurse participants had at least a bachelor's degree in nursing but were never exposed to infectious disease prevention programs. Based on the related literature, one of the expectations of HCWs is to receive training that enables them to provide high-quality care to patients (15). A higher level of nursing knowledge obtained from appropriate education and training could provide nurses with a better understanding of how to care for COVID-19 patients which in turn could reduce the level of their fear. Therefore, medical insurance, emergency services, and active training along with proper PPE precautions and hygiene practices are crucial for nurses caring for COVID-19 patients (19). Therefore, it can be concluded that infection prevention is a critical function of the healthcare system and that HCWs should always practice infection prevention in daily patient care (20). Moreover, they should be trained to anticipate recurring epidemics (21). A good understanding of COVID-19 infection prevention can be achieved through nursing education and training.

The key point of this study on nurses' fear of caring for patients with COVID-19 is the presence of a perceived uncertainty that leads to a feeling of incompetence in providing care to such patients. A previous study suggested that when nurses were uncertain of their nursing competencies, they felt frustration, anger, agitation, and fear in challenging circumstances during nursing practice (22). This is consistent with the findings of this study. Ensuring that you are properly prepared is essential for providing patient care. On the other hand, nursing management is vital in maintaining or upgrading nursing competencies in pandemic situations, such as COVID-19.

Regarding the nursing implications of the study, it can be concluded that improving nurses' competencies and emotional-spiritual strength can reduce their fears while caring for COVID-19 patients. These results can be a strong justification for developing a regular nurse training program before facing a pandemic. Such a program should include prevention and control of viral transmission and improvement of nurses' self-esteem and self-confidence. A nursing preparedness program should begin during nurses' formal education. The study's findings propose including nursing pandemic courses in nursing education curricula. These may include course materials on how to prevent transmission of infections and how to use and remove PPE, as well as personal hygiene for nurses to interrupt virus transmission. A further study on feeling incompetent due to perceived uncertainty needs to be conducted.

A holistic approach to promoting nurses' health while caring for patients with COVID-19 is crucial. Moreover, nurses should ensure maintaining a good immune system, proper diet and nutrition,

relaxation, good psychological health, social support, and appropriate infection control measures. Once nurses are sufficiently equipped with the mentioned competencies and support systems, it would be expected that nurses in Indonesia would be able to minimize their fear when facing future pandemics. Although this study was limited by its sample size and design, the findings reveal invaluable data that can stimulate efforts to develop a regular nurse training program before a pandemic.

Implications for practice

The study's implications underline nursing preparedness in approaching pandemic situations. It is recommended to enable nurses to become more aware and ready to face a pandemic. Such a program should include teaching and practicing prevention and control of viral transmission, nurse self-esteem improvement activities, and, more importantly, pandemic course subjects in the nursing education curricula. This way schools would be able to provide nursing students with pandemic-based competencies. Future studies should explore the feeling of nursing incompetence caused by perceived uncertainty.

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Conflicts of interest

The authors declared no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

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