Analysis of Anxiety Levels in Healthcare Workers in COVID-19 Isolation Room: A Literature Study

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Abstract

Background: This research is a literature study. PICOT framework is used as strategy to find journals using the keywords “anxiety AND nurses AND COVID-19”. The data sources used are the e-resources database of Indonesian National Library, Pub-med, and Google Scholar in the form of articles or journals.

Objectives: This study aims to identify the factors that influence the anxiety of healthcare workers especially nurses during the COVID-19 outbreak.

Methods: Inclusion criteria of this study are national and international journals from various databases and related with the research variables namely “Anxiety” and “Nurses for COVID-19 Patients” with article publication time frame in the last 5 years (2016-2021). The exclusion criteria for this study were national and international journals from various databases and not related with research variables; no intervention is given; not about “Anxiety” and “Nurses for COVID-19 Patients”; and the publication time of the article is more than 5 years.

Results: Three databases are used: 119 articles found in National Library database; 358 from PubMed; and 836 from Google Scholar. After being disqualified regarding the year of publication for the last 5 years as well as duplication of articles, 327 articles are obtained, and finally, 6 articles that meet the criteria.

Conclusion: From the final 6 articles found, most of the healthcare workers experienced anxiety. So, from literature review of 6 research journals, it can be concluded that healthcare workers experienced anxiety when treating patients with COVID-19 which related to additional working hours and workload as well as insufficiency of personal protective equipment.

Keywords: anxiety, healthcare workers, covid-19
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Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) or commonly known as COVID-19 is a virus that attacks the respiratory system. This virus can cause mild disorders of the respiratory system, severe lung infections, and even death. Symptoms obtained in COVID-19 vary, ranging from asymptomatic, mild symptoms, moderate symptoms, severe and critical. Symptoms that generally arise are fever, dry cough, fatigue, anorexia, shortness of breath or shorter breath, and myalgia. COVID-19 is a virus that is in the spotlight because it first appeared at the end of 2019 in Wuhan, China. The spread of COVID-19 initially only occurred in China and then spread to various countries including Indonesia. Based on data on the COVID-19 incidence worldwide on January 31, 2021, it has reached 103,514,592 cases of people infected with the COVID-19 virus, the United States of America ranks first with an incidence rate of 26,767,229 cases, followed by India which occupies second place with an incidence of 26,204,619, followed by Brazil which ranks third with an incidence of 9,204,731. The COVID-19 outbreak became a global pandemic after it was announced by the World Health Organization (WHO) mainly with its fast-spreading, it became the main topic that occurred in all corners of the world. Indonesia has no exception because the number of people infected with COVID-19 is increasing day by day. As of January 31, 2021, there were 103,514,592 cases infected with the COVID-19 virus globally. Indonesia ranked first as the country with the highest confirmed cases of COVID-19 in ASEAN. The number of positive cases of COVID-19 as of January 31 in Indonesia is 1,078,314 people with a death toll of 29,998 people. Data on confirmed cases of COVID-19 for healthcare workers especially nurses in Indonesia until January 2021 has increased. There have been 4,877 nurses who have confirmed positive for COVID-19. Banten province in Indonesia ranked the 9th for confirmed positive COVID-19 cases until January 2021 with a total of 26,204 people, a total recovery of 15,778 people, and with several deaths of as many as 547 people. All healthcare workers and paramedics, especially nurses, must always be ready to serve and provide direct care for patients who are confirmed to have COVID-19, even though the transmission rate is very high, and cases are increasing every day. This need for healthcare workers to take care of COVID-19 patients will certainly make nurses as healthcare workers have more workloads and are very vulnerable to experience psychological problems in the form of anxiety. This anxiety arises with emotional conditions with the emergence of discomfort accompanied by feelings of helplessness and recurrent disturbing worries which made the individuals increase their alertness to anticipate it which is carried out by the body autonomously or unconsciously. This anxiety can also interfere with individual thoughts or concentration, as well as physical symptoms may occur such as sweating, shaking, or experiencing dizziness. The current COVID-19 pandemic makes everyone experience emotional stress, and some groups are more vulnerable to this, such as the elderly, people with impaired immune function, and those who live, receive, or provide treatment in hospitals such as healthcare workers. Healthcare workers have a very high risk of being exposed to the COVID-19 virus because their duty as a nurse requires them to make direct contact with patients infected with COVID-19. This condition triggers emotional stress in the form of anxiety for healthcare workers who take care of COVID-19 patients. The healthcare workers can worry about transmitting the disease to the family. In addition to that is the current situation of insufficient personal protective equipment for healthcare workers as well as longer working hours. Nurses tend to be anxious when treating COVID-19 patients as there is fear to be the one who will be infected by the virus or who transmitted the disease to fellow nurses or their family members which caused instability in nurses’ quality and functionality of life. Psychological
responses from nurses who work in the COVID-19 isolation room arise because there is fear of transmitting the virus to fellow nurses, family members, and even other patients which are shown by the stress symptoms, depression, anger, denial, and even trauma. It is important to maintain nurses’ quality of life to prevent anxiety towards COVID-19, as well as to maintain sincerity in providing care to patients who are also experiencing anxiety because of isolation from current society. There is a need for help to nurses who are experiencing anxiety during the working period in isolation room treating COVID-19 patients such as psychological intervention which can be done through meeting with psychologists, maintaining family time, as well as support from society to improve confidence in nurses and healthcare workers during their period of anxiety when treating COVID 19 patients.

Methods
This research is a literature review. The framework used to find the journal is PICOT. The keywords used are "Anxiety" AND "Nurses" AND "COVID-19". The data sources used are the e-resources database of the Indonesian National Library, PubMed, and Google Scholar in the form of articles or journals. The inclusion criteria of this study are national and international journals from various databases; related to research variables of anxiety and nurse for COVID-19 patients, and the time frame of publication in the last 5 years (from 2016 to 2021). The exclusion criteria for this study were national and international journals from various databases and had no relation to the research variables, no intervention was given, no anxiety and no nurse for COVID-19 patients; and the time frame of publication was more than 5 years.

Results
The three databases used are e-resources from Indonesian National Library with 119 search results, PubMed for 358 search results, and Google Scholar for 836 search results. After being disqualified regarding the year of publication, for the time frame in the last 5 years and the selection of articles duplication, 327 articles were obtained, and finally, 6 articles that met the criteria.
Table 1. The article search process

| Search using keywords, with database: National Library (n=119) PubMed (n=358) Google Scholar (n=836) |
| Search by last 5 years National Library (n=119) PubMed (n=358) Google Scholar (n=836) |
| After the duplicates are removed n = 821 |
| Filter search by topic n = 564 |
| Matching title and abstract (n=239) |
| Final journal that can be analysed according to the problem formulation and objectives (n=6) |

The six articles can be seen in Table 2. The first article is titled Description of Nurses’ Anxiety Levels While on Duty in the COVID-19 Treatment Room. This is quantitative research with the research method of Analytical Survey with a Cross-Sectional design. The population of this study was all nurses who worked in the COVID-19 isolation room at the Tangerang Regency General Hospital, with a total of 192 nurses. The research instrument used in this study was a questionnaire which was the Indonesian version of the Generalized Anxiety Disorder-7 questionnaire with a total of 20 questions. The results showed that the nurses who worked in the COVID-19 isolation room at this hospital could respond well to anxiety.

The second article is titled Factors Associated with Nurse Anxiety Levels in Handling COVID-19 Patients at Siloam Hospital Makassar. The study was conducted using a cross-sectional study approach with a total sampling technique of 50 samples. This study focuses on knowing nurses’ anxiety in handling COVID-19 patients by using the Zung Self-Anxiety Scale (ZSAS) questionnaire which contains a list of statements to measure the level of anxiety in nurses who treat COVID-19 patients at Siloam Hospital Makassar. The results of this study indicate that there is a relationship between trust in the use of Personal Protective Equipment (PPE), age, and marital status with nurses’ anxiety levels in handling COVID-19.

The third article is titled An Overview of Depression, Anxiety, and Stress Levels Experienced by Nurses in Providing Care for COVID-19 Patients. This study used a
The sample of this study was 53 nurses who worked in the isolation room using the purposive sampling technique. Research data is collected through Google Forms to describe facts and characteristics systematically and accurately regarding a particular field and attempt to describe situations or events. Before this research was conducted, it had received ethical approval from the KEPK of the Faculty of Nursing, the Adventist University of Indonesia with the number: No. 118/KEPK-FIK.UNAI/EC/X/20 and has obtained permission from the hospital. The results of this study indicate that nurses who work in isolation rooms for patients with COVID-19 in the depression category show that most research subjects experienced depression at a level of very severe depression. The category of anxiety shows that most research subjects experienced a very severe level of anxiety. And for the category of stress shows that most research subjects experienced a moderate level of stress. The fourth article is titled the Relationship of Self-Efficacy with Nurse Anxiety Levels During the COVID-19 Pandemic in West Nusa Tenggara (NTB) Province. This study uses a quantitative correlation method with a cross-sectional approach. The study was conducted on April 13-25, 2020, with 53 nurses as respondents. This research was conducted by distributing questionnaires through online networking media such as WhatsApp and e-mail using the Google Form application to distribute the questionnaire link. The questionnaires used were the General Self Efficacy Scale (GSES) and General Anxiety Disorder-7 which were given to nurses in charge of handling COVID-19 in NTB Province. This research concluded that high self-efficacy is closely related and even significantly relieves psychological symptoms such as low levels of anxiety in nurses who work in hospitals or other health care facilities during the COVID-19 pandemic in NTB Province.

The fifth article is titled Prevalence and Influencing Factors in Anxiety in Medical Workers Fighting COVID-19 in China: a Cross-Sectional Survey. This study aims to identify the factors that influence the anxiety of medical workers in China during the COVID-19 outbreak. This cross-sectional study aims to estimate the prevalence of anxiety among medical staff in China. Of 512 medical staff in China, 164 (32.03%) had direct contact with treating infected patients. Participating healthcare staff included doctors, nurses, and administrative workers in hospitals equipped with fever clinics or COVID-19 wards in various regions in China. Administrative staff work in administration and are not directly involved in the care or treatment of infected patients. Data were collected from 10 February 2020 to 20 February 2020 in China during the COVID-19 epidemic. Informed consent was given by the subjects before the start of the study. After that, we distributed self-report questionnaires to health workers via WeChat. In a survey of hospital medical workers during the COVID-19 outbreak in China, it was found that study participants experienced symptoms of anxiety, especially those who had direct clinical contact with infected patients; as happened in the worst-affected areas, including Hubei province; and those who are suspects in the case. Governments and health care authorities should proactively implement appropriate psychological intervention programs, to prevent, reduce or treat increased anxiety.

The sixth article is titled Psychological Impact and Coping Strategies of Frontline Medical Staff in Hunan between January and March 2020 during the Outbreak of Coronavirus Disease 2019 (COVID) in Hubei, China. The sampling technique was non-probability sampling with an accidental sampling approach, obtained 5 respondents with a pre-experimental design using a pre-posttest without a control group. Questionnaires were sent to frontline medical staff working during the coronavirus disease 2019 (COVID-19) outbreak. Participants included doctors and nurses from the departments of infectious disease, emergency medicine, fever clinics, and intensive care units, as well as technicians from radiology and laboratory medicine, and hospital staff from infection prevention. A questionnaire was used...
previously designed by Lee et al, which was used to evaluate medical staff during the 2003 severe acute respiratory syndrome (SARS) epidemic. The questionnaire was modified for this study and includes five sections with 67 questions. All participants were asked to understand the meaning of the questions and to answer their questions. The findings show that the COVID-19 epidemic in Hubei is resulting in increased workload and stress for medical staff in the neighboring Hunan province. The main stress-related factors include perceived risk of infection to themselves and their families, patient mortality, availability of clear infection control guidelines, availability of effective protective equipment, recognition of their work by hospital authorities, and decreased reported COVID-19 cases. Staff support and provision of facilities and equipment by hospital managers and governments are necessary to maintain and encourage the involvement of medical staff in future epidemics.

Table 2. Article Search Results

<table>
<thead>
<tr>
<th>Title</th>
<th>Population/Sample/Design</th>
<th>Intervention</th>
<th>Result</th>
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<tbody>
<tr>
<td>“Description of the Anxiety Level of Nurses While on Duty in the Nursing Room COVID-19”</td>
<td>This type of research is a quantitative research method with a cross-sectional design Analytical Survey. The population in this study were all nurses who served in the COVID-19 isolation room at the Tangerang Regency General Hospital, totaling 192 people.</td>
<td>The research instrument used in this study was a questionnaire. The questionnaire used in this study was the Indonesian version of the Generalized Anxiety Disorder-7 questionnaire with a total of 20 questions.</td>
<td>The results of the study show the picture of anxiety in nurses who work in the COVID-19 isolation room at the Tangerang Regency General Hospital can respond well to anxiety.</td>
</tr>
<tr>
<td>“Factors Related to Nurses’ Anxiety Levels in Handling COVID-19 Patients at Siloam Hospital Makassar”</td>
<td>The research was conducted using a cross-sectional study approach with a total sampling technique of sampling with a sample size of 50.</td>
<td>This study focuses on knowing the anxiety of nurses in handling COVID-19 patients by using the Zung Self-anxiety Scale (ZSAS) questionnaire which contains a list of statements to measure the level of anxiety in nurses who treat COVID-19 patients at Siloam Hospital Makassar.</td>
<td>The results of this study indicate that there is a relationship between trust in the use of Personal Protective Equipment (PPE), age, and marital status with nurses’ anxiety levels in handling COVID-19.</td>
</tr>
<tr>
<td>“An Overview of Depression, Anxiety, and Stress Levels Experienced by Nurses in Providing Care for COVID-19 Patients”</td>
<td>The results of this study indicate that there is a relationship between trust in the use of Personal Protective Equipment (PPE), age, and marital status with nurses’ anxiety levels in handling COVID-19.</td>
<td>Research data is collected through Google Forms to describe facts and characteristics systematically and accurately regarding a particular field and attempt to describe</td>
<td>The results of this study indicate that nurses who work in isolation rooms for patients with COVID-19 in the depression category show that on average...</td>
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situations or events. Before this research was conducted, it had received ethical approval from the KEPK, Faculty of Nursing, Adventist University, Indonesia with the number: No. 118/KEPK-FIK.UNAI/EC/X/20 and has received permission from the hospital. Very severe depression. The category of anxiety shows that the average subject experiences a very severe level of anxiety. And for the stress category shows that the average subject experiences a moderate level of stress.

This research was conducted by distributing questionnaires through online networking media such as; WhatsApp and e-mail using the google form application to distribute the questionnaire link, the study started from April 13 to April 25, 2020. The questionnaires used were the General Self Efficacy Scale (GSES) and General Anxiety Disorder-7 which were given to nurses in charge of handling COVID-19 in NTB Province. Based on the results of the research and discussion above, it can be concluded that high self-efficacy is closely related and even significantly relieves psychological symptoms such as low levels of anxiety in nurses who work in hospitals or other health care facilities during the COVID-19 pandemic in NTB Province.

The prevalence and influencing factors in anxiety in medical workers fighting COVID-19 in China: a cross-sectional survey. This study aims to identify the factors that influence the anxiety of medical workers in China during the COVID-19 outbreak. A cross-sectional study to estimate the prevalence of anxiety among medical staff in China. Of the 512 medical staff in China, 164 (32.03%) had direct contact with treating infected patients. Participating health staff includes doctors, nurses, and administrative workers at hospitals equipped with fever clinics or COVID-19 wards in various regions of China. Administrative staff work in administration and are not directly involved in hospital medical workers during the COVID-19 outbreak in China, it was found that study participants experienced symptoms of anxiety.
the care or treatment of infected patients. Data were collected from February 10, 2020, to February 20, 2020, in China during the COVID-19 epidemic. Informed consent was given by the subjects before the start of the study. After that, we distributed self-report questionnaires to health workers via WeChat especially those who had direct clinical contact with infected patients; as happened in the worst-affected areas, including Hubei province; and those who are suspects in the case. Governments and health care authorities should proactively implement appropriate psychological intervention programs, to prevent, reduce or treat increased anxiety.

“Psychological impact and coping strategies of frontline medical staff in Hunan between January and March 2020 during the outbreak of coronavirus disease 2019 (COVID) in Hubei, China”. The sampling technique is non-probability sampling with an accidental sampling approach obtained from 5 respondents. Questionnaires were sent to frontline medical staff working during the coronavirus disease 2019 (COVID-19) outbreak. Participants included doctors and nurses from the departments of infectious disease, emergency medicine, fever clinics, and intensive care units, as well as technicians from radiology and laboratory medicine, and hospital staff from infection prevention. A questionnaire was used previously designed by Lee et al, which was used to evaluate medical staff during the 2003 severe acute respiratory syndrome (SARS) epidemic. The questionnaire was modified for this study Findings show that the COVID-19 epidemic in Hubei is resulting in increased workload and stress for medical staff in the neighboring Hunan province. The main stress-related factors include perceived risk of infection to themselves and their families, patient mortality, availability of clear infection control guidelines, availability of effective protective equipment, recognition of their work by hospital
Discussion

The results of this study show that COVID-19 attacks the respiratory system which resembles pneumonia but has signs of a decrease in oxygen saturation. In Indonesia, all healthcare workers, and paramedics, especially a nurse, must always be ready to serve and provide direct care. With the condition of very high COVID-19 transmission rate, and the number of cases is increasing every day, nurses as healthcare workers have more workloads with longer working hours and they become very vulnerable to experience psychological problems in the form of anxiety. This is also explained in the research of Yari et al, 2021. The results showed that the anxiety picture of nurses working in the Covid-19 isolation room at the Tangerang Regency General Hospital could respond to anxiety well. And reinforced by research conducted by Astin & Paembongan, 2021, the results of this study show that there is a relationship between trust in the use of Personal Protective Equipment (PPE), age, and marital status with nurses' anxiety levels in handling Covid 19.

As explained in Sihombing & Elon's research, 2021 it was found that nurses who worked in isolation rooms for patients with COVID-19 in the depression category showed that on average the research subjects experienced a very severe level of depression. The category of anxiety shows that the average subject experiences a very severe level of anxiety. And for the stress category shows that the average subject experiences a moderate level of stress. It is also supported by the research of Suhamdani et al., 2020 that high self-efficacy is closely related to and even significantly relieves psychological symptoms such as low anxiety levels in nurses who work in hospitals or other health care facilities during the COVID-19 pandemic in NTB Province. As well as research by Liu et al., 2020 showed In a survey of hospital medical workers during the COVID-19 outbreak in China, it was found that study participants experienced symptoms of anxiety, especially those who had direct clinical contact with infected patients; as happened in the worst-affected areas, including Hubei province; and those who are suspects in the case. Governments and health care authorities should proactively implement appropriate psychological intervention programs, to prevent, reduce or treat increased anxiety.

And reinforced by the research of Cai et al., 2020 it was found that the COVID-19 epidemic in Hubei resulted in increased workload and stress for medical staff in neighboring Hunan province. The main stress-related factors include perceived risk of infection to themselves and their families, patient mortality, availability of clear infection control
guidelines, availability of effective protective equipment, recognition of their work by hospital authorities, and decreased reported COVID-19 cases. Staff support and the provision of facilities and equipment by hospital managers and governments are necessary to maintain and encourage the involvement of medical staff in future epidemics.

Conclusion
From a literature review of 6 research journals, it can be concluded that healthcare workers especially nurses experienced anxiety while treating patients with COVID-19. The factors causing anxiety in nurses working in COVID-19 are the fact that the number of COVID-19 cases is increasing day by day; the length of working hours and workloads; and the insufficient personal protective equipment. Future research needs to analyze the strategies to prevent anxiety in healthcare workers especially nurses who are treating COVID-19 patients.

Conflict of Interest Declaration
No potential conflict of interest relevant to this article was reported.

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Not mentioned.

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