Impact of Covid-19 Outbreaks on Psychological Problem of Nurses

by Sidik Awaludin

Impact of Covid-19 Outbreaks on Psychological Problem of Nurses on a Multinational Basis: A Literature Review

Sidik Awaludin[a], Elly Nurachmah[b], Dwi Novitasari [c]

[a]School of Nursing, Jenderal Soedirman University, Purwokerto, Indonesia
[b]Faculty of Nursing, Indonesia University, Depok, Indonesia
[c]Faculty of Health, Harapan Bangsa University, Purwokerto, Indonesia

Corresponding Author:
Sidik Awaludin, School of Nursing, Faculty of Health Sciences, Jenderal Soedirman University Dr. Soeparno Street, Karangwangkal, Purwokerto, Central Java, Indonesia.
Email: abifayza@yahoo.co.id

Abstract

Background: The COVID-19 pandemic is a major health crisis that is causing physical and psychological problems in patients and healthcare workers. Nurses as the frontline of health care workers experience psychological problems from mild to severe

Aim: The aim of this literarture review was to find out the impact of Covid-19 on psychological problem of nurses in several countries.

Design: A literature review reported following the PRISMA guidelines.

Data Sources: ProQuest, Google Scholar, Scopus and Science Direct are sought to identify published original English language, published from 1 December 2019 to 31 April 2020.

Results: Nine articles are included. The majority of articles published are in the form of observational studies originating from Chinese centers. There are other publications from Singapore, India, Republic of Korea, Pakistan, United Kingdom, and Lebanon. Based on the literature found in some of the countries mentioned above nurses experienced several psychological problems ranging from mild ones such as disappointed, anxiety, fear, stress, to severe ones such as depression, and post-traumatic stress disorder.

Conclusion: The Covid-19 outbreak caused psychological problems in nurses such as disappointed, anxiety, fear, stress, post-traumatic stress disorder.

Keywords: *COVID-19 outbreak*; literature review; nurses; psychological problem

INTRODUCTION

The Coronavirus 19 (COVID-19) pandemic believed to originate from Wuhan, China at the end of 2019, It is has spread to various countries in the world rapidly globally with a growing number of cases and deaths being infected (2). According to the WHO report the incidence of COVID-19 throughout the world is still increasing, it is proven by the discovery of the number of new cases. The total number of confirmed cases worldwide on May 02, 2020, is 3.267.184 people, the number of new cases is 91.977 people with a mortality rate of 7.04 % (3).

The COVID-19 outbreak that occurred had a psychological impact on the community but also on health care workers, especially nurses (1). Nurses have an important role to play in helping reduce the impact of COVID-19 (4). Nurses are health care workers as an important force that stands at the forefront in the fight against the pandemic so that they are under the highest pressure of all medical care workers (5). Nurses and other health care workers risk their lives to perform their duties. Because nurses often have close contact with COVID-19 patients, they are very susceptible to infection and spread the virus among coworkers and family members . To date, more than 3.000 health care workers have been infected with COVID-19 in the world. In addition to experiencing physical stress, nurses also face a very heavy mental burden (6). The mental health of nurses has been severely challenged during the COVID-19 pandemic (7).

Studies show that nurses fear being infected and transmit the COVID-19 virus to their families, friends, and colleagues, feel uncertain about their safety, get stigmatized from the community as carriers of the virus, report unwillingness to work or contemplate resignation, and report experiencing stress levels, anxiety and high depressive symptoms which can occur for a long time. Similar concerns about mental health, psychological adjustment, and recovery of health care workers who treat and care for patients with COVID-19 now appearappear (8).

Seeing this phenomenon literature review was designed to explain the psychological problems experienced by nurses in several countries in the world affected by COVID-19.

This literature review aims to find out the impact of COVID-19 on the psychological problem of nurses in several countries so that they can provide input to health policyholders to solve the psychological problems of nurses who are experiencing that ultimately nurses can perform optimal nursing care to COVID-19 patients.

METHODS

Strategies in Literature Search
A literature review is used to find out psychological problems that occur in nurses while caring for COVID-19 patients. The framework in reporting uses Preferred Reporting Items for Systematic Reviews and Meta-analysis followed to report findings (9). Electronic databases from ProQuest, Google Scholar, Scopus and Science Direct are sought to identify published original English language, published from 1 December 2019 to 31 April 2020. Searching for literature sources since the advent of COVID-19 disease, it is hoped to find information on the latest developments of psychological problems that occur in nurses while caring for COVID-19 patients. The search term includes "impact COVID-19", "psychological problems", "nurse", "healthcare workers" and "medical staff".

Search Outcome
All psychological problems experienced by nurses while treating patients with COVID-19. This study uses inclusion criteria which are all interventions related to psychological problems experienced by nurses . These studies were excluded if the article (a) did not discuss psychological problems or mental health (b) does not describe psychological problems experienced by nurses , (c) did not use the English language, and (d) studies with qualitative methods.

Data Abstraction
When the search results for an article have been obtained the first time the results are extracted by the first author independently, other writers do the same. Then all the authors discuss together and approve the articles selecte d for the literature review. Studies are grouped and compared based on the targeted country of origin, populations studied, methodology, study instrument and outcome findings (9).

Synthesis

The author does not take steps until the systematic review because the articles obtained are very limited in number and the articles were also heterogeneous with each other, which was large in the studies included. Also, the variables measured from each article are different. Therefore, the authors report the results of this study as a narration summary.

RESULTS

The PRISMA diagram used by researchers for the screening and selection of studies obtained is shown in Figure 1(9). The electronic search generated 1504 articles through keyword searches from four databases namely ProQuest, Google Scholar, Scopus, and Science Direct. Five duplicate articles were found by the author in the search, s o the first author filtered 1499 articles. After further titles and abstract screening of 1499 articles were obtained, then for the reasons and specific approval of the authors, 1460 articles were issued and a total of 39 full-text articles were assessed for eligibility. The authors evaluated the full text of 39 articles for eligibility, removed 14 articles for a reason, then obtained 25 studies for further in-depth review specifically according to inclusion criteria. Nine articles met the full inclusion criteria which consisted of the final sample (Figure 1).

The majority of articles published are in the form of observational studies originating from Chinese centers. There are other publications from Singapore, India, the Republic of Korea, Pakistan, the United Kingdom, and Lebanon.

In China, nurses feel anxious about their safety and the safety of their families and get psychological problems from reports of mortality due to COVID-19 infection. (10). Another study reported Fever Outpatient Nurses or emergency nurses 34% had mild anxiety, 3.53% had moderate anxiety, and 0.44% had severe anxiety. There were 32.23% of nurses who became respondents with a score greater than 25 on the perceived stress scale, indicating excessive stress (5). Female nurses show higher anxiety and fear than men. Nurses who work in cities show higher levels of anxiety and fear than nurses living in rural areas, but nurses living in the rural area show higher levels of sadness than nurses who live in cities (6). Another study showed nurses reported symptoms of depression 50.4%, anxiety 44.6%, insomnia 34.0%, and difficulty 71.5%. Another study showed female nurses, frontline health care workers, and those working in Wuhan, China, reporting more severe rates of all mental health symptom measurements than other health care workers (8).

In Singapore and India reported the survey, that nurses, doctors, and Screening performed on health care workers including nurses reported 5.3% experiencing moderate to very severe depression, 8.7% moderate to very severe anxiety, 2.2% for moderate to very severe stress, and 3.8% for the level of pressure moderate to severe psychological. The most commonly reported symptom was headaches 32.3%, with a large number of participants 33.4% reporting more than four symptoms. Participants who experienced symptoms in the previous month were more likely to be older, have pre-existing comorbidities, and screen positive for depression, anxiety, stress, and post-traumatic stress disorder. The emergence of physical symptoms as a result of psychological problems such as anxiety, stress, and depression (11).

In the Republic of Korea, although time has passed since the outbreak of COVID-19, the high risk of symptoms of post-traumatic stress disorder is still felt by health care workers (nurses) who care for patients infected with COVID-19. Also, negative emotions and stress experienced by health care workers who treat patients infected with COVID-19 are addressed by the emergence of frequent signs of error, disappearance, delays due to communication failures, and others. Therefore, it is necessary to identify the appearance of these signs and can be suggested as important hospital management guidelines during the COVID-19 outbreak (12).

In Pakistan nurses also feel anxiety, fear, panic, and insecurity when working treating patients with COVID-19. The local nursing staff at the crisis center of the COVID-19 pandemic crisis are essential for the effective work of the

health care system, so resources need to be sent to ens ure the mental health of working nurses. The results of the mental health assessment of good nurses will be able to prevent the culture of helplessness that nurses learn. The government and hospital administration officers in Pakistan must make every effort to manage and distribute personal protective equipment to doctors and nurses to ensure the safety of those who are at the forefront to treat patients with COVID-19. Adequate equipment and supplies of personal protective equipment, such as protective gowns, goggles, N95 masks, latex gloves and isolation gowns, adequate availability, and appropriate use can make health care workers feel comfortable and safe. Increase self-confidence and provide motivation among clinical nurses are very necessary during the pandemic. Psychological crisis interventions by practitioners of psychologists, counselors, and psychological experts are very useful for reducing fear, anxiety, panic, and insecurity among nurses working to care for COVID-19 patients. (13).

In the United Kingdom, the results of the study report that stress is still felt by health care workers, including nurses, to date. This stress includes concerns about the shortage of health care workers and the availability of self-protection equipment, new regulations, or new treatment systems in COVID-19 patients and others. Feel a lack of support from related organizations. Our anecdotal sources in the United Kingdom and Europe support this finding because, at the time of our writing nearing the height of the pandemic, other stressors included moral stress resulting from treatment decisions due to limited resources, lack of access to antigen or antibody tests for most health workers being at the forefront, discomfort and fatigue are felt due to undergoing long shift work using complete personal protection equipment. On social media, nurses say about fatigue after a long time wearing masks, barriers to communicating with colleagues and patients when wearing complete personal protective equipment, nurses often cannot hear patients and vice versa nurses do not understand the voice of nurses wearing personal protective equipment that complete, the patient cannot see the nurse's face. Nurses also talk about difficult ethical and moral judgments taken at the hospital. Nurses say they get a stigma from the community, nurses are considered as a threat to the safety of others because of 'carriers of disease'. When the number of COVID-19 patients increases, there are increasingly strict rules about who will use ventilation devices, at that time nurses tend to experience moral conflicts and ethical dilemmas with potential stress and moral pressure. Lack of adequate protection for nursing staff causes nurses to become frustrated, feel insecure at work because nurses have risked their health and risk to infect their families unless nurses feel well supported by their organization and government nurses become safe and comfortable at work. The feeling of psychological discomfort has the potential to cause some people to leave their profession. It would be difficult as a nurse to not have a strong emotional reaction to the COVID-19 virus and its effects on one's work such as worry, fear, anger, frustration. Such fears and anxieties are normal, as are the intense feelings that arise when nurses feel unable to treat patients as they should. (14).

In Lebanon an increased depressive and anxiety symptoms in nurses and other health care workers. The phenomenon of a lockdown condition gradually improves as the patient proves to adapt progressively to telepsychiatric services. From a therapeutic perspective, there has been a recent change in the treatment modality chosen by older patients: due to fear of contamination, most older patients and their caregivers have avoided hospitalization (15).

DISCUSSION

Since the COVID-19 outbreak is very new, so there is very little literature on the psychological problem of nurses. This study narrates the various psychological problems experienced by nurses when observing COVID-19 patients in several countries. Based on the results of literature found in some of the countries mentioned above nurses experienced several psychological problems ranging from mild ones such as disappointed, anxiety, fear, stress to severe ones such as depression and Post Traumatic Stress Disorder (5, 8, 16, 17). There were even reports of infected nurses committing suicide within a few days for fear of spreading COVID-19 to patients. It is possible that fear and anxiety can cause sick nurses, the helplessness that will drive an increase in suicide rates by 2020 (18).

Psychological problems experienced by nurses during the COVID-19 pandemic caused by several factors including due to the nature of the deadly virus, isolation, working in high-risk positions, and direct contact with infected individuals, lack of access to antigen or antibody tests, limited personal protective equipment, difficult ethical and moral judgments taken at the hospital, experiencing stigma in the wider community, nurses are considered a threat to the safety of others because as' carriers of disease ", lack of knowledge in treating COVID-19 patients.. (7, 10, 13, 14).

These psychological problems experienced by nurses need to be addressed with appropriate interventions, through psychological support for nurses, special training in nursing care for patients with COVID-19, stress relief, reducing fear and anxiety about infection, minimizing psychosocial changes and behavio urs caused by isolation. The government and hospital management must make every effort to manage and distribute personal protective equipment to nurses to ensure their safety is at the forefront. Adequate personal protective equipment and supplies such as N95 masks, protective gowns, goggles, latex gloves, and isolation gowns, maintain safety, nurse's confidence, and motivate each other among clinical nurses. Psychological crisis interventions by practitioners of psychologists, counsellor, and psychological experts will reduce fear, anxiety, panic, and insecurity among nurses. Personal activities can also improve emotional well-being through co-encouraging work activities, writing messages to provide positive reinforcement, actively listening to each other's concerns. (13).

CONCLUSION

The COVID-19 outbreak caused psychological problems in nurses such as disappointed, anxiety, fear, stress, post-traumatic stress disorder. This problem needs to be addressed so that nurses can work to implement nursing care optimally.

Strength and Limitation
This study builds on and expands recent systematic review impact COVID-19 on the psychological problem of nurses. The limited number of references specifically addresses nurses' psychological problems due to the COVID-19 outbreak.

Statement of Conflicting Interests
The author states that there is no potential conflict of interest regarding research, authorship, or publication of this article.

Funding
The author does not receive financial support for research, authorship, or publication of this article.

ORCID iD
Sidik Awaludin https://orcid.org/0000-0002-9805-1994

REFERENCES

1. Bo H-X, Li W, Yang Y, Wang Y, Zhang Q, Cheung T, et al. Posttraumatic stress symptoms and attitude toward crisis mental health services among clinically stable patients with COVID-19 in China. Psychological Medicine. 2020:1-7.
2. Ahmed MZ, Ahmed O, Aibao Z, Hanbin S, Siyu L, Ahmad A. Epidemic of COVID-19 in China and associated Psychological Problems. Asian Journal of Psychiatry. 2020;51:102092.
3. WHO. Coronavirus disease (COVID-2019) situation reports. 2020 02 May 2020.
4. Brinkman A. Coping with the COVID-19 virus. 2020.

5. Cui S, Jiang Y, Shi Q, Zhang L, Kong D, Qian M, et al. Impact of COVID-19 on psychology of nurses working in the emergency and fever outpatient:A cross -sectional survey. Research Square; 2020.

6. Huang L, xu Fm, Liu Hr. Emotional responses and coping strategies of nurses and nursing college students during COVID-19 outbreak. medRxiv. 2020:2020.03.05.20031898.

7. Kang L, Ma S, Chen M, Yang J, Wang Y, Li R, et al. Impact on mental health and perceptions of psychological care among medical and nursing staff in Wuhan during the 2019 novel coronavirus disease outbreak: A cross-sectional study. Brain, Behavior, and Immunity. 2020.

8. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. JAMA network open. 2020;3(3):e203976.

9. Moher D, Liberati A, Tetzlaff J, Altman DG, The PG. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLOS Medicine. 2009;6(7):e1000097.

10. Cai H, Tu B, Ma J, Chen L, Fu L, Jiang Y, et al. Psychological Impact and Coping Strategies of Frontline Medical Staff in Hunan Between January and March 2020 During the Outbreak o f Coronavirus Disease 2019 (COVID‑ 19) in Hubei, China Medical Science Monitor. 2020;26.

11. Chew NWS, Lee GKH, Tan BYQ, Jing M, Goh Y, Ngiam NJH, et al. A multinational, multicentre study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak. Brain, behavior, and immunity. 2020.

12. Park S-C, Park YC. Mental Health Care Measures in Response to the 2019 Novel Coronavirus Outbreak in Korea. Psychiatry Investig. 2020;17(2):85-6.

13. Mukhtar S. Mental Wellbeing of Nursing Staff during the COVID-19 Outbreak: A Cultural Perspective. Journal of Emergency Nursing 2020.

14. Maben J, Bridges J. Covid-19: Supporting nurses' psychological and mental health. Journal of Clinical Nursing. 2020;n/a(n/a).

15. Khoury R, Karam G. Impact of COVID-19 on Mental Healthcare of Older Adults: Insights from Lebanon (Middle East). Cambridge: Cambridge University Press; 2020 2020 Apr 24.

16. Tan BYQ, Chew NWS, Lee GKH, Jing M, Goh Y, Yeo LLL, et al. Psychological Impact of the COVID-19 Pandemic on Health Care Workers in Singapore. Annals of Internal Medicine. 2020.

17. Ornell F, Schuch JB, Sordi AO, Kessler FHP. ''Pandemic fear'' and COVID-19: mental health burden and strategies Brazilian Journal Psychiatry. 2020.

18. Montemurro N. The emotional impact of COVID-19: From medical staff to common people. Brain, behavior, and immunity. 2020:S0889-1591(20)30411-6.
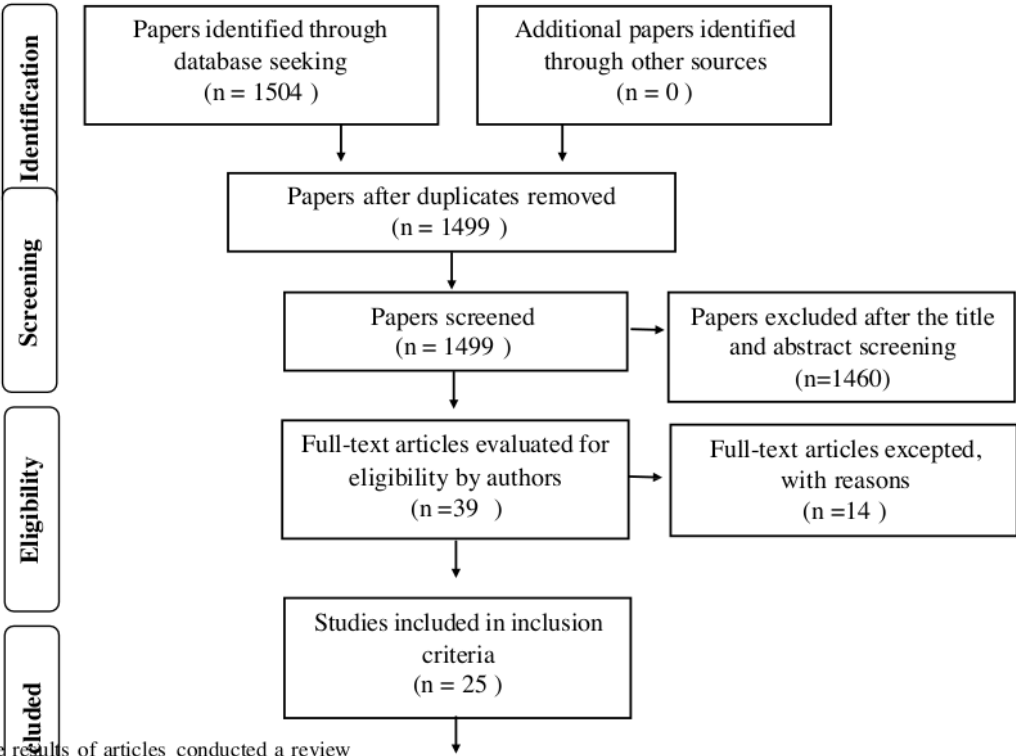
Figure 1. Identification of articles for review

Identification

| Papers identified through database seeking (n = 1504) | Additional papers identified through other sources (n = 0) |

Screening

Papers after duplicates removed (n = 1499)

Papers screened (n = 1499) → Papers excluded after the title and abstract screening (n=1460)

Eligibility

Full-text articles evaluated for eligibility by authors (n =39) → Full-text articles excepted, with reasons (n =14)

Studies included in inclusion criteria (n = 25)

Included

Relevant studies included in the review (n = 9)

Table 2. The results of articles conducted a review

Author, Year	Country of Origin		Study Instrument	Outcome Findings
(Cai et al., 2020)	China		questionnaire ...hed the study feelings, investigated possible factors that could induce stress, questions to identify factors that might reduce their stress, and questions on what would encourage medical staff to be more confident in future outbreaks	Responses indicate that health workers, including nurses, believe they have a social and professional obligation to continue working long hours. Health care workers are concerned about their safety and the safety of their families and report the psychological effects of reports of deaths from COVID-19 infections. Availability of strict infection control guidelines, special equipment, acknowledgment of

					their efforts by hospital and government management, and reduction of reported COVID-19 cases that provide psychological benefits.
(Chew et al., 2020)	[13] Singapore and India	Doctors, nurses, allied healthcare workers, technicians, administrators, clerical staff and maintenance workers	Invited to participate in research by filling out a self-administered questionnaire	[24] Depression Anxiety Stress Scales 21 and the Impact of Events Scale-Revised instruments.	In the survey, 45.3% screened positive for moderate to very-severe depression, 8.7% for moderate to extremely severe anxiety, 2.2% for moderate to extremely severe stress, and 3.8% for moderate to severe levels of psychological distress. The commonest reported symptom was headache 32.3%, with a large number of participants 33.4% reporting more than four symptoms. Participants who experienced symptoms in the previous month were more likely to be older, have pre-existing [49] comorbidities and screen positive for depression, anxiety, stress, and PTSD.
(Cui et al., 2020)	China	Emergency or fever outpatient(EFO) nurses	Cross-sectional study using data obtained with online questionnaires that are managed by themselves	Simplified Coping Style Questionnaire, Perceived Stress Scale-14 and The Self-Rating Anxiety Scale	The participants, 62.03% had no anxiety [6] symptoms, 34% had mild anxiety, 3.53% had moderate anxiety, and 0.44% had severe anxiety. 32.23% participants with scores greater than 25 in the PSS, indicating excessive stress. 50.55% participants were more likely to respond positively to stress, while 49.45% were

					more likely to respond negatively.
(Huang et al., 2020)	China	Nurses and college nursing students	Online questionnaire survey	An Hui on a 5-point scale. Revised based on the Brief COPE prepared by Carver	Female nurses show higher anxiety and fear responses than men. Nurses from the city had more anxiety and fear than nurses from the countryside, but rural nurses showed more sadness [28] than urban nurses. The closer COVID-19 is to participants, the stronger their anxiety [16] and anger.
(Khoury & Karam, 2020)	Lebanon	Mental Healthcare	not mentioned	not mentioned	Increased symptoms of depression and anxiety in health care workers. The Lockdown phenomenon gradually improves with patients adapting progressively to telepsychiatric services. From a therapeutic perspective, there has been a change in the treatment modality chosen by older patients: because of fear, contamination, most of the older patients and their caregivers have avoided [26] patient care.
(Maben & Bridges, 2020)	United Kingdom	Nurse	not mentioned	not mentioned	Nurses have the highest levels of work stress and the resulting stress compared to othe [3] health workers. The COVID-19 outbreak reflects high concern among nurses for their health status or family in the face of direct contact with potentially deadly and stressful viruses balancing these concerns with ethical

					obligations to continue providing care. Other stressors such as concerns about staff shortages and personal protective equipment, navigating unknown and new arrangements or maintenance systems and lack of organizational support. Nurses are stigmatized by society as follow[1] nurses are considered as a threat to the safety of others and as a 'carrier of disease'.
(Mukhtar, 2020)	Pakistan	Nursing staff	not mentioned	not mentioned	Nurses, doctors, and paramedics experience mental health problems that are often greater than physical injuries. Anxiety, fear, panic, and insecurity are felt by nurses who work. The stress produced in the COVID-19 outbreak is not the same as other epidemics.
(Park & Park, 2020)	Republic of Korea	Healthcare workers	Editorial	not mentioned	The high risk of posttraumatic stress symptoms is reported by health care workers who treat patients and by hemodialysis patients in quarantine. Negative emotions and stress experienced by health workers who treat infected patients are characterized by triggering events that are categorized as errors, missing, delays due to communication failures, and others.
(Lai et al., 2020)	China	Health care workers	This cross-sectional,	The 9-item Patient Health	Most respondents who followed the researchers

			[11] vey-based, region-stratified study	Questionnaire, Generalized Anxiety Disorder, Insomnia Severity Index and Impact of Event Scale-Revised	who worked at the hospital in Wuhan were nurses 60.8%. Most [17] lth professionals reported symptoms of depression 50.4%, anxiety 44.6%, insomnia 34.0%, and difficulty 71.5%. Female nurses, front-line health care workers report more severe levels of all mental health symptom measurements than other health care workers front-line [4] alth workers involved in the direct diagnosis, treatment, and care of patients with COVID-19 are associated with a higher risk of symptoms depression anxiety, insomnia, and distress.

Impact of Covid-19 Outbreaks on Psychological Problem of Nurses

PRIMARY SOURCES

1	Submitted to CSU, Fullerton Student Paper	1%
2	Laura Upenieks. "With You Until the End of the Age? A Longitudinal Study of Changes in Religiosity and Loneliness in Later Life", Research on Aging, 2022 Publication	1%
3	Melike Yavaş Celik. "The dual role of nurses as mothers during the pandemic period: qualitative study", Early Child Development and Care, 2021 Publication	1%
4	jfmpc.com Internet Source	1%
5	Submitted to Coventry University Student Paper	1%
6	Sri Eka Wahyuni, Wardiyah Daulay, Jenny Marlindawany Purba, Mahnum Lailan Nasution. "The Influence of Online Cognitive	1%

Behavior Therapy Applications on Nurse's Anxiety during the COVID-19", Open Access Macedonian Journal of Medical Sciences, 2022
Publication

7 bmcpsychiatry.biomedcentral.com
Internet Source
1%

8 Md Zahir Ahmed, Oli Ahmed, Zhou Aibao, Shang Hanbin, Liu Siyu, Akbaruddin Ahmad. "Epidemic of COVID-19 in China and Associated Psychological Problems", Asian Journal of Psychiatry, 2020
Publication
1%

9 Hanif Nasiatul Baroroh, Esti Dyah Utami, Anisyah Achmad. "Psidium guajava leaves decrease arthritic symptoms in adjuvant-induced arthritic rats", Universa Medicina, 2016
Publication
1%

10 Submitted to University of Wales, Bangor
Student Paper
<1%

11 Mamidipalli Sai Spoorthy. "Mental health problems faced by healthcare workers due to the COVID-19 pandemic- a review", Asian Journal of Psychiatry, 2020
Publication
<1%

12 bmcinfectdis.biomedcentral.com
Internet Source
<1%

13   Submitted to Griffth University
      Student Paper   <1 %

14   Joanna Dymecka, Anna Machnik-Czerwik,   <1 %
      Jakub Filipkowski. "Fear of COVID-19, Risk
      Perception and Stress Level in Polish Nurses
      During COVID-19 Outbreak", The Journal of
      Neurological and Neurosurgical Nursing, 2021
      Publication

15   Submitted to PSB Academy (ACP eSolutions)   <1 %
      Student Paper

16   Yin Qianlan, Hou Tianya, Li Wei, Gao Jia, Ni   <1 %
      Chunyan, Zhao Wei, Lian Bin, Li Huifen, Dong
      Wei, Deng Guanghui, Jia Yan. "The
      psychological outcomes of COVID-19 affected
      the pandemic-after risk perceptions of nurse
      clinicians: a latent profile analysis", Global
      Mental Health, 2022
      Publication

17   dev.physiciansweekly.com   <1 %
      Internet Source

18   Dinda Nur Asri Mutiara Ramadhani, Oedojo   <1 %
      Soedirham. "ANALISIS PENGALAMAN
      PSIKOLOGIS PERAWAT DALAM MENANGANI
      PASIEN COVID-19", Healthy Tadulako Journal
      (Jurnal Kesehatan Tadulako), 2021
      Publication

19   Jing-Xian Yin, Yannick Luther Agbana, Zhi-Shan Sun, Si-Wei Fei, Han-Qing Zhao, Xiao-Nong Zhou, Jun-Hu Chen, Kokouvi Kassegne. "Increased Interleukin-6 is Associated with Long COVID-19: Evidence from a Systematic Review and Meta-analysis", Research Square Platform LLC, 2022
Publication   <1%

20   Rhythm Joshi, Nidhi B. Agarwal, Dinesh Bhurani, Mohd. Ashif Khan. "Frontline Healthcare workers suffering from psychosomatic disorders during COVID-19 (a pandemic): A Systematic review", Cold Spring Harbor Laboratory, 2021
Publication   <1%

21   e-space.mmu.ac.uk
Internet Source   <1%

22   Submitted to Central Queensland University
Student Paper   <1%

23   Submitted to Mount St. Marys College
Student Paper   <1%

24   Submitted to University of Tennessee Knoxville
Student Paper   <1%

25   academic.oup.com
Internet Source   <1%

26 committees.parliament.uk
Internet Source
<1%

27 www.independent.co.ug
Internet Source
<1%

28 Daniel Sperling. "Training Nurses to Better Deal With Ethical Dilemmas During Pandemics", Disaster Medicine and Public Health Preparedness, 2020
Publication
<1%

29 Submitted to MAHSA University
Student Paper
<1%

30 revistas.udea.edu.co
Internet Source
<1%

31 saudijournals.com
Internet Source
<1%

32 www.coursehero.com
Internet Source
<1%

33 Amir Vahedian-Azimi, Malihe Sadat Moayed, Farshid Rahimibashar, Sajad Shojaei, Sara Ashtari, Mohamad Amin Pourhoseingholi. "Compare the severity of psychological distress among four groups of Iranian society in COVID-19 pandemic", Research Square Platform LLC, 2020
Publication
<1%

34   Bowling, Ann. "Research Methods in Health", Research Methods in Health, 2023
Publication

<1 %

35   Dhan Bahadur Shrestha, Bikash Bikram Thapa, Nagendra Katuwal, Bikal Shrestha et al. "Psychological Distress in Nepalese Residents during COVID-19 Pandemic: A Community Level Survey ", Research Square Platform LLC, 2020
Publication

<1 %

36   brieflands.com
Internet Source

<1 %

37   Alexis Winfield, Carly Sugar, Barbara Fenesi. "The impact of the COVID-19 pandemic on the mental health of families dealing with attention-deficit hyperactivity disorder", PLOS ONE, 2023
Publication

<1 %

38   Lijun Kang, Simeng Ma, Min Chen, Jun Yang et al. "Impact on Mental Health and Perceptions of Psychological Care among Medical and Nursing Staff in Wuhan during the 2019 Novel Coronavirus Disease Outbreak: a Cross-sectional Study", Brain, Behavior, and Immunity, 2020
Publication

<1 %

39   docs.google.com
Internet Source

<1 %

40 ijpot.com
    Internet Source   <1 %

41 wels.open.ac.uk
    Internet Source   <1 %

42 www.ircmj.com
    Internet Source   <1 %

43 Huri Seval GÖNDEREN ÇAKMAK, Şeyma ÖCAL,   <1 %
    Sevgisun KAPUCU. "Experiences of Turkish
    Nurses With COVID-19 Infection in Pandemic
    and Post-Pandemic: A Qualitative Study",
    Nurse Leader, 2023
    Publication

44 Janet Alexis A. De los Santos, Leodoro J.   <1 %
    Labrague. "The impact of fear of COVID-19 on
    job stress, and turnover intentions of frontline
    nurses in the community: A cross-sectional
    study in the Philippines.", Traumatology, 2021
    Publication

45 Lonia Mwape, Kestone Lyambai, Esther   <1 %
    Chirwa, Mavis Mtonga, Patricia Katowa-
    Mukwato, Agatha Lloyd. "COVID-19 Pandemic
    through the Lenses of Nurses and Midwives
    in Zambia: Exploring Depression, Anxiety and
    Stress", Open Journal of Psychiatry, 2022
    Publication

46 M.M. Ross, C. Sagrera, P. McPherson, D. Gurgel Smith et al. "Use of virtual meeting and survey technology to assess Covid-19-related mental well-being of healthcare workers", Ethics, Medicine and Public Health, 2023
Publication
<1 %

47 Qi Li, Wei Liu, Jie-Yu Wang, Xiao-Guang Wang, Bo Hao, Yu-Bo Hu, Xi Deng, Lu Liu, Hu Zhao, Yan-Wei Shi, Li Xue. "Prevalence and risk factors of post-traumatic stress disorder symptoms among Chinese health care workers following the COVID-19 pandemic", Heliyon, 2023
Publication
<1 %

48 covidlit.spectrumhealth.org
Internet Source
<1 %

49 search.bvsalud.org
Internet Source
<1 %

50 "Pregnant in the Time of Ebola", Springer Science and Business Media LLC, 2019
Publication
<1 %

51 Mohammad Ali Fardin, Sophia Khaneghahi. "Comparison of Mental Health of General Population at the Peak of COVID-19 Pandemic in Iran", Annals of Military and Health Sciences Research, 2021
Publication
<1 %