RESILIENCE OF NURSES DURING THE COVID-19 PANDEMIC
THE 21ST CENTURY GLOBAL NURSING PARADIGM: A LITERATURE REVIEW

Ari Damayanti Wahyuningrum

Corresponding Author: Ari Damayanti Wahyuningrum
Email: damayantiari1982@gmail.com
Affiliation: STIKES Widyagama Husada

ABSTRACT
Resilience is an adaptive coping mechanism needed by health workers, especially nurses who have longer working hours than other health workers to provide care to patients in the era of the Covid-19 pandemic which is a global health problem. The aim of this literature review is to identify the resilience of nurses during the covid-19 pandemic the 21st century global nursing paradigm. This language method uses literature reviews which are summaries of 10 articles in the publication years of 2020-2021 on search 4 databased electronic searches contain namely Scopus, ProQuest, Pubmed, and Scient Direct. This review used prisms. The eligibility of these studies were from its title, abstract, research methodology, results and discussion. The results of the review were presented in narrative form. The results of a review of 10 articles found that the form of psychological factors during the covid-19 pandemic, mental distress and influencing factors in nurses caring for patients with COVID-19, resilience nurses during the covid-19 pandemic. Conclusion: The 21st century global nursing paradigm, one of the global problems in the health sector, with the outbreak of the corona virus disease (Covid-19), the role of nurses as the front guard is needed by the community to provide health services in line with the increasing incidence of covid-19 cases. Strong nurses need an adaptive inner coping mechanism.

Key word: Resilience, Nurses, Covid-19
INTRODUCTION

Background

Covid-19 (Corona Virus Disease) is an epidemic of a deadly disease whose spread is very fast and has become a world health crisis (1). The world health crisis caused by a new type of corona virus named SARS-Cov 2, which spreads very rapidly with the risk of being infectious and deadly (2). The increased risk of transmission and death has not found effective treatment (3).

The number of covid-19 incidents in the world according to WHO is 110 million cases, as many as 84 million have recovered and 26 million have died (4). The government regulates all lines, especially health lines in treatment and prevention efforts (5). Vaccination is one of the preventive efforts for health workers and the community in the future and the community's lack of compliance in preventing efforts to use 3M (washing hands, maintaining distance, wearing masks) so that the incidence of Covid-19 is still high (6).

The high incidence of covid-19 in almost all countries in the world has established emergency hospitals as treatment facilities (7). Global and national health care systems can have an impact on health workers who care for one of them nurses (8). The intensity of nurse working hours is longer with patients than other health professions, this has an impact on nurses being able to experience higher psychological pressure (9).

The causes of psychological stress that occur include the risk of direct exposure to the virus from the patient, the use of personal protective equipment (PPE) with hazmat for a long time during work shifts, the risk of nosocomial infection, the fear of transmission of corona virus contamination from nurses to family members at home, feelings rejected by others, and social isolation (10). This triggers anxiety, fatigue, depression, low back pain or musculoskeletal disorders (11). Psychological distress refers to the emotional state of being exposed to stressful events that threaten a person's physical or mental health (12). Inability to deal with stressors effectively
can result in psychological distress both in the short and long term (9).

Stress conditions in every human being are a mental health problem that cannot be avoided (10). Nurses are human beings who are part of the vanguard, the role of psychological resources is needed, support from colleagues and the government, individual resilience that can be used to reduce adverse effects while caring for Covid-19 patients, namely the ability to survive and adapt firmly in difficult situations (6). Research on nurse resilience during the Covid-19 pandemic has not been carried out much research, therefore it is necessary to summarize the literature aimed at identifying the resilience of nurses during the Covid-19 pandemic.

Aim of the study

Describe resilience to nurses during the Covid-19 pandemic as the front line

Research question

Are the results of the review related to nurse resilience during the Covid-19 pandemic as the front line?

METHODS

A comprehensive summary in the form of a literature review regarding the resilience of nurses during the Covid-19 pandemic as the front line. Protocol and evaluation from literature review used the PRISMA checklish to determine the selection of studies that were identified and tailored to the objectives of the literature review.

Literature review which is a comprehensive summary of several studies, research that is determined based on a specific theme. The search for literature was carried out in February-March 2021. The data used in the study were secondary data obtained, not from direct observation but obtained from the results of research that had been conducted by previous researchers. The secondary data source obtained is in the form of reputable journal articles
both nationally and internationally within the last 3 years with a predetermined theme. The review literature search in this case used five databases with high and medium quality criteria, namely Scopus, ProQuest, Pubmed, and Scient Direct.

Searching for articles or journals uses keywords and boolean operators (AND OR NOR or AND NOT) which are used to expand or specify a search, making it easier to determine which articles or journals are used. Key words in the review literature are adjusted accordingly Medical Subject Heading (MeSH) and consists of the following:

**Table 2.1. Keywords: Resilience review**

| literature    | Nurses     | Covid-19                  | Pandemic |
|---------------|------------|--------------------------|----------|
| Resilience    | Nurses     | Corona Virus Disease     | Pandemic |
| OR            | OR         | OR                       | OR       |
| Mental endurance | Health Wokers | Wuhan Corona Virus | Outbreak |

Based on the results of literature searches through publications in five databases and using keywords that have been adjusted to MeSH, the researchers obtained 200 articles that match these keywords. The search results that have been obtained are then checked for duplication, it is determined that there are 60 similar articles so they were excluded and the remaining 140 articles. The author then conducted a screening based on the title (n = 140), abstract (n = 40) and full text (n = 25) which was adjusted to the theme of the literature review. An assessment that was carried out based on the eligibility of the inclusion and exclusion criteria obtained as many as 25 articles that can be used in the literature review.

**RESULTS**

Reviews contained in 10 journals regarding resiliensi from the inclusion criteria of quantitative and qualitative research designs from 4 database electronic searches contain namely Scopus, ProQuest, Pubmed, and Scient Direct, obtain the following results:
1. Article title: "Resilience of Nurses in Isolation Wards during the COVID-19 Pandemic: a Cross-Sectional Study".

This article started at background impact of supportive interventions on resilience and self assessed psychopathology symptoms of 92 nurses in isolation ward during the covid-19 pandemic was evaluated. Resilience and psychopathological symptoms of nurses in the isolation ward was assessed by the Connor Davidson Resilience Scale (CD-RISC) and the symptom checklist 90 (SCL-90). A total resilience score> 160 to 281 (202.5 ± 40.79). only 8.70% of the nurses (n = 8) had a total SCL 90 score> 160, suggesting positive symptoms. The majority of nurses had 0-90 positive self assessment items (median 14); 19.57% (n = 18) had> 43 positive items. Interpersonal sensitivity, depression, hostility and paranoid ideations scores were below national averages (p = 0.000, 0.040, 0.002, 0.002, respectively). SCL 90 items reflecting diet and sleep conditions were higher (P = 0.009), and somatization, obsessive compulsive, anxiety and psychoticism domains and score were similar to national averages (p> 30). With exception of somatization and other domains, the mean resilience score was negatively associated with the scores of other SCL 90 domains. High resilience promotes physical and mental health, and may be improve by training, psychological interventions and full use of hospital resources (13).

2. Article title: "The Relationship between Psychological Resilience, Burnout, Stress and Sociodemographic Factors with Depression in Nurses and Midwives during the Covid-19 Pandemic A Cross-Sectional Study in Turkey".

This article started at background psychological resilience has an important role in enabling healthcare professionals to adapt to and deal with the covid-19 outbreaks effectively. In the literature, psychological resilience has been defined as a protective factor against stress and depression. Design this cross sectional study included 377 midwives and nurses. The prevalence of depression in midwives and nurses in our sample was 31.8%. In the logistic regression analysis, the risk of depression in midwives was 1.92 times higher than that of nurses. A high perceived stress score increased the risk of depression by 1.16 times and high emotional exhaustion score increased the risk of depression by 11 times. A high psychological resilience score was found to be protective agains depression (<0.001) (14).
3. Article title: "Perceived Risk and Mental Health Problem among Healthcare Professionals during Covid-19: Exploring the Mediating Effects of Resilience and Coronavirus Fear".

This article started at background during coronavirus (covid-19) pandemic, healthcare professionals were particularly at high risk of developing symptoms of mental health problems due to being on the frontline in the battle against Covid-19. This study examined the mediating roles of resilience among coronavirus fear in the relationship between perceived risk and mental health problem among healthcare professionals including doctors and nurses who were actively treating patients confirmed with covid-19. We recruited 204 healthcare professionals (50% females) with a mean age of 32.92 years (SD = 7.01). Showed that perceived risk and coronavirus fear positively predicted depression, anxiety and stress while resilience negatively predicted those mental health problems. Corona virus fear mediated the relationship between perceived risk and resilience, depression, anxiety and stress. Additionally resilience mitigated the effect of coronavirus fear on depression, anxiety and stress. This study is among the first indicating the importance of resilience and fear as a critical mechanism that explains the relationship between perceived risk and mental health problems among health professionals directly caring for covid-19 patients (15).

4. Article title: "Covid-19 Anxiety among Front-Line Nurses: Predictive Role of Organizational Support, Personal Resilience and Social Support".

This article started at background Anxiety related to the covid-19 pandemic is prevalent in the nursing workforce, potentially affecting nurses well being and work performance. Identifying factors that could help maintain mental health and reduce coronavirus related anxiety among front line nurses is imperative. Currently no studies have been conducted examining the influence of personal resilience, social support and organizational support in reducing covid-19 anxiety among nurses. The methods this cross-sectional study involved 325 registered nurses from the philippines using four standardized scales. Result of the 325 nurses in the study, 123 (37.8%) were found to have dysfunctional levels of anxiety. Using multiple linear regression analyzes, social support ($\beta = -0.142$, $p = 0.11$), personal resilience ($\beta = -0.151$, $p = .008$) and organizational support ($\beta = -0.127$, $p = 0.23$) predicted covid-19 anxiety. Nurses characteristics were not associated with covid-19 anxiety (6).
5. Article title: "Nurses Stressors and Psychological Distress during the Covid-19 Pandemic: the Mediating Role of Coping and Resilience".

This article started at background analyzes the effects of stress sources during the peak of the Covid-19 pandemic in a cross-sectional manner on the psychological disorders of nurses with a focus on the mediating role of coping strategies both focusing on problems as well as on emotions and resilience. The survey method was from April 1 to May 25, 2020 with a sample size of 421 nurses in Spain. The results confirm that stress has a significant, direct and negative relationship with psychological disorders of nurses, strategies that focus on emotions have a negative relationship with psychological pressure of nurses directly and indirectly through resilience, problem focused strategies are positively related to nurses psychological distress and negatively and indirectly through emotion focused strategies (11).

6. Article title: "Frontline Nurses Burnout, Anxiety, Depression and Fear Statuses and their Associated Factors during the Covid-19 Outbreak in Wuhan China: A Large Scale Cross Sectional Study".

This article started at background during the corona virus disease 2019 pandemic, frontline nurses face enormous mental health challenges. Epidemiological data on the mental health statuses of frontline nurses are still limited. The methods a large scale cross sectional, descriptive, correlational study design was used. A total of 2,014 eligible frontline nurses from two hospitals in Wuhan China, participated in the study. Besides sociodemographic and background data, a set of valid and reliable instruments were used to measure outcomes of burnout, anxiety, depression, fear, skin lesion, self efficacy, resilience and social support via the online survey in February 2020. Finding on average the participants had a moderate and high work burnout and a high level of fear. The nurses reported moderate and high work burnout, as shown in emotional exhaustion (n = 1,218, 60.5%), depersonalization (n = 853, 42.3%) and personal accomplishment (n = 1,219, 60%). The finding showed that 288 (14.3%), 217 (10.7%) and 1,837 (91.2%) nurses reported moderate and high levels of anxiety, depression, fear and respectively. The majority of nurses (n = 1,910, 94.8%) had one or more skin lesion and 1,950 (96.8%) nurses expressed their frontline work willingness. Mental health outcomes were statistically positively correlated with skin lesion and negatively correlated with self efficacy, resilience, social support and frontline work willingness (8).
7. Article title: "Psychological Distress, Coping Behaviors and Preferences for Support among New York Healthcare Workers during the Covid-19 Pandemic".

This article started at background the mental health toll of covid-19 on healthcare workers (HCW) is not fully described. We characterize distress, coping and preferences for support among healthcare workers during covid-19 pandemic. Methods this was a cross-sectional web survey of physicians, advanced practice providers, residents / fellows and nurses, conducted during a peak of inpatient admissions for covid-19 in (9-24 April 2020) at a large medical center in (n = 657). the results positive screens for psychological symptoms were common 57% for acute stress, 48% for depressive, and 33% for anxiety symptoms. For each a higher percent of nurses or advanced practice providers screened positive and attending physicians through housekeeping rates for acute stress and depression did not differ from either. Sixty one percent or participants reported increased sense of meaning or purpose since the covid-19 outbreak. Physical activity was the most common coping behavior (59%), and access to an individual therapist with online self guided counseling (33%) garnered the most interest (2).

8. Article title: "A Rapid Review of the Impact of Covid-19 on the Mental Health of Healthcare Workers: Implication for Supporting Psychological Well Being".

This article started at background health and social care wokers have carried a heavy burden during the covid-19 crisis. In the challenge to control the virus, have directly faced its consequences. Supporting their psychological well being continuous, therefore to be a priority. This rapid review was carried out to establish whether there are any identifiable risk factors for adverse mental health outcomes amongst health and social care wokers during the covid-19. Methods we undertook a rapid review of the literature following guidelines by the WHO and the Cochrane collaboration's recommendations we searched across 14 databased, executing the search at two different time points. We included published, observational and experimental studies that reported the psychological effects on health and social care wokers during covid-19 pandemic. Result the 24 studies included in this review reported data predominantly from China and most sampled urban hospital staff. Our study indicates that covid-19 has a considerable impact on the psychological wellbeing
of front line hospital staff. The results suggest the nurses may be at higher risk of adverse mental health outcomes during this pandemic, but no study compare this group the primary care workforce.

9. Article title: "Covid-19: Risk Factors and Protective Role of Resilience and Coping Strategies for Emergency Stress and Secondary Trauma in Medical Staff and Emergency Workers An Online Based Inquiry".

This article started at background the covid-19 crisis has placed a heavy burden on medical staff and emergency workers, who may be at risk of developing psychological distress and secondary trauma. Coping and resilience to stress during a pandemic are protective factors that can mitigate the potential adverse psychological effects. Investigated the direct and medicated effects of coping strategies and hardness on secondary trauma among Italian medical staff (nurses, n = 140) and emergency workers (ambulance personnel, n = 100) involved in the first phase of the pandemic. We collected data from participants through online questionnaires to measure emergency stress, coping strategies, hardness and secondary trauma. Other variables were analyzed were age, sex, direct contact with covid-19 patients and use of personnel protective equipment. We performed a correlational analysis, regressions and a meditation analysis. The result show that nurses and physicians experienced higher levels of emergency stress than emergency wokers. Direct contact with covid-19 patients, female sex, unexpected events and lack of personal protective equipment were risk factors for emergency stress, while research and coping strategies played a protective role. Meditation analysis shows that coping strategies and hardness are protective factors and reduce the effect of stress on secondary trauma (16).

10. Article title: "Factors Associated with Psychological Distress in Health-Care Workers during an Infectious Disease Outbreak: A Rapid Systematic Review of the Evidence".

This article started at background health care workers are at risk for psychological distress during an infectious disease outbreak, such as the coronavirus pandemic, due to the demand dealing with a public health emergency. This rapid systematic review examined the factors associated with psychological distress among health care workers during an outbreak. Methods systematically reviewed literature on the factors associated with psychological distress (demographic characteristics, occupational, social, psychological and infection related factors). In health care workers during an outbreak (covid-19,
SARS, MERS, H1N1, H7N9, ebola) four databased were searched 2000 to 15 November 2020 for relevant peer reviewed research according to a pre registered protocol. A narrative synthesis was conducted to identify fixed, modifiable and infection related factors linked to distress and psychiatric morbidity. Results from the 4,621 records identified 138 with data from 143,246 health care workers in 139 studies were conducted covid-19 (k = 107, N = 34.334) and SARS (k = 21, N = 18.096). Consistent evidence indicated that being female, a nurse, experiencing stigma, maladaptive coping having contact or risk of contact with infected patients and experiencing quarantine, were risk factors for psychological distress among health care workers. Personal and organizational social support, perceiving control, positive work attitudes sufficiently associated with less psychological distress (9). SARS (k = 21, N = 18.096). Consistent evidence indicated that being female, a nurse, experiencing stigma, maladaptive coping having contact or risk of contact with infected patients and experiencing quarantine, were risk factors for psychological distress among health care workers. Personal and organizational social support, perceiving control, positive work attitudes sufficiently associated with less psychological distress among health care workers. Personal and organizational social support, perceiving control, positive work attitudes sufficiently associated with less psychological distress among health care workers. Personal and organizational social support, perceiving control, positive work attitudes sufficiently associated with less psychological distress among health care workers. Personal and organizational social support, perceiving control, positive work attitudes sufficiently associated with less psychological distress among health care workers. Personal and organizational social support, perceiving control, positive work attitudes sufficiently associated with less psychological distress among health care workers. 

DISCUSSION

The novel corona virus diseases (covid-19) pandemic which is included in the SARS Cov-2 group occurred in December 2019 until now so that the world health organization (WHO) raised the global risk to a high level of vigilance (17). One of the health workers who are nurses who work in health care settings during the Covid-19 pandemic is vulnerable experiencing psychological distress and intense trauma i.e. insomnia, fear (18). Nurses' anxiety during the emergency response is due to an unfavorable environment, shortages of nursing staff and personal protective equipment (PPE), heavy workload and lack of relevant knowledge and skills in infection control (14). The negative coping mechanism of anxiety is moral decline with anger (19).
The impact of psychological problems faced by nurses during an emergency response can have a negative impact on safety and performance efficiency (17). The negative psychological impact of nurses can be anticipated with the tough resilience in the nurse (20). Resilience is the ability to adapt by remaining mentally or emotionally strong in overcoming crisis situations to return to pre-crisis status where resilience is built from within, namely optimism, self-efficacy, self-control (15).

Some nurses pay attention to safety during emergency responses such as personal health in dealing with direct contact with Covid-19 patients, therefore it is recommended that the right action is with stress reduction strategies (21). Stress reduction can be done by offering consecutive rest days to ensure the safety of nurses, providing nurses with a means to communicate with the family (22). The results of other studies inform support from colleagues and leaders to share experiences with people who have similar experiences, this can reduce psychological and emotional trauma (11).

The results of several hospital studies formed clinical psychological intervention teams to deal with psychological and emotional problems of nurses and other health workers by providing personal protection regarding infection prevention and control guidelines (23). Other interventions in overcoming psychological problems are psychological tests before starting work and individual test results are intervened with interviews, face-to-face communication, case management discussions, and video lectures (13). Another support system is in the form of an appropriate additional salary as a compensation for working in a life-threatening unit (24).

CONCLUSION

The 21st century global nursing paradigm, one of the global problems in the health sector, namely the outbreak of the corona virus disease (Covid-19) that occurred throughout the world. The role of health workers, especially nurses, as the front guard is very much needed by the community to provide health services in line with the increasing incidence of Covid-19 cases to date so that in several countries many emergency hospitals have been established to support services to the community. The impact felt by health workers, especially nurses who have 24 hours of meeting time with patients than other professions, can have an impact on psychological problems, namely stress and physical fatigue (25).
1. Altmayer V, Weiss N, Cao A, Marois C, Demeret S, Rohaut B, et al. Coronavirus disease 2019 crisis in Paris: A differential psychological impact between regular intensive care unit staff members and reinforcement workers. Aust Crit Care. 2020; 34: 142–5.

2. Shechter A, Diaz F, Moise N, Anstey DE, Ye S, Agarwal S, et al. Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. Gene Hosp Psychiatry. 2020; 66 (May): 1–8.

3. Carmassi C, Foghi C, Dell'Oste V, Cordone A, Bertelloni CA, Bui E, et al. PTSD symptoms in healthcare workers facing the three coronavirus outbreaks: What can we expect after the COVID-19 pandemic. Psychiatry Res [Internet]. 2020; 292 (July): 113312. Available from: https://doi.org/10.1016/j.psychres.2020.113312

4. Pathirathna R, Adikari P, Dias D, Gunathilake U. Critical Preparedness, Readiness and Response To Covid-19 Pandemic: a Narrative Review. J Adm Kesehatan Indones. 2020; 8 (2): 21.

5. Cai Z, Cui Q, Liu Z, Li J, Gong X, Liu J, et al. Nurses endured high risks of psychological problems under the epidemic of COVID-19 in a longitudinal study in Wuhan China. J Psychiatr Res [Internet]. 2020; 131 (September): 132–7. Available from:https://doi.org/10.1016/j.jpsychires.2020.09.007

6. Labrague LJ, De los Santos JAA. COVID-19 anxiety among front-line nurses: Predictive role of organizational support, personal resilience and social support. J Nurs Manag. 2020; 28 (7): 1653–61.

7. Du J, Dong L, Wang T, Yuan C, Fu R, Zhang L, et al. Psychological symptoms among frontline healthcare workers during COVID-19 outbreak in Wuhan. Gene Hosp Psychiatry [Internet]. 2020; 67 (March): 144–5. Available from: https://doi.org/10.1016/j.genhosppsych.2020.03.011

8. Hu D, Kong Y, Li W, Han Q, Zhang X, Zhu LX, et al. Frontline nurses' burnout, anxiety, depression, and fear statuses and their
associated factors during the COVID-19 outbreak in Wuhan, China: A large-scale cross-sectional study. EClinicalMedicine. 2020; 24.

9. Sirois FM, Owens J. Factors Associated With Psychological Distress in Health-Care Workers During an Infectious Disease Outbreak: A Rapid Systematic Review of the Evidence. Front Psychiatry. 2021; 11 (January).

10. De Kock JH, Latham HA, Leslie SJ, Grindle M, Munoz SA, Ellis L, et al. A rapid review of the impact of COVID-19 on the mental health of healthcare workers: implications for supporting psychological well-being. BMC Public Health. 2021; 21 (1): 1–18.

11. Lorente L, Vera M, Peiró T. Nurses’ stressors and psychological distress during the COVID-19 pandemic: The mediating role of coping and resilience. J Adv Nurs. 2021; (August 2020): 1335–44.

12. Fernández-Abascal EG, Martín-Díaz MD. Longitudinal study on affect, psychological well-being, depression, mental and physical health, prior to and during the COVID-19 pandemic in Spain. Individual Press Dif. 2021; 172 (September 2020).

13. Ou X, Chen Y, Liang Z, Wen S, Li S, Chen Y. Resilience of nurses in isolation wards during the COVID-19 pandemic: a cross-sectional study. Psychol Heal Med [Internet]. 2021; 26 (1): 98–106. Available from: https://doi.org/10.1080/13548506.2020.1861312

14. Yörük S, Güler D. The relationship between psychological resilience, burnout, stress, and sociodemographic factors with depression in nurses and midwives during the COVID-19 pandemic: A cross-sectional study in Turkey. Perspect Psychiatr Care. 2021; 57 (1): 390–8.

15. Yıldırım M, Arslan G, Özaslan A. Perceived Risk and Mental Health Problems among Healthcare Professionals during COVID-19 Pandemic: Exploring the Mediating Effects of Resilience and Coronavirus Fear. Int J Ment Health Addict. 2020;

16. Maiorano T, Vagni M, Giostra V, Pajardi D. COVID-19: Risk factors and protective role of resilience and coping strategies for emergency stress and secondary trauma in medical staff and emergency workers —an online based inquiry. Sustain. 2020; 12 (21): 1–18.
17. Chen SH, Liu JE, Bai XY, Yue P, Luo SX. Providing targeted psychological support to frontline nurses involved in the management of COVID-19: An action research. J Nurs Manag. 2021; 2020 (January): 1–11.

18. Kim SC, Quiban C, Sloan C, Montejano A. Predictors of poor mental health among nurses during COVID-19 pandemic. Nurs Open. 2020; (August 2020): 900–7.

19. Hossain F, Clatty A. Self-care strategies in response to nurses' moral injury during COVID-19 pandemic. Nurs Ethics. 2020; 28 (1): 23–32.

20. Batra K, Singh TP, Sharma M, Batra R, Schvaneveldt N. Investigating the psychological impact of COVID-19 among healthcare workers: A metaanalysis. Int J Environ Res Public Health. 2020; 17 (23): 1–33.

21. Hofmeyer A, Taylor R, Kennedy K. Knowledge for nurses to better care for themselves so they can better care for others during the Covid-19 pandemic and beyond. Nurse Educ Today. 2020; 94: 2016–9.

22. Chen H, Sun L, Du Z, Zhao L, Wang L. A cross-sectional study of mental health status and self-psychological adjustment in nurses who supported Wuhan for fighting against the COVID-19. J Clin Nurs. 2020; 29 (21–22): 4161–70.

23. Li X, Zhou Y, Xu X. Factors associated with the psychological well-being among front-line nurses exposed to COVID-2019 in China: A predictive study. J Nurs Manag. 2020; (August 2020): 240–9.

24. Digby R, Winton-Brown T, Finlayson F, Dobson H, Bucknall T. Hospital staff well-being during the first wave of COVID-19: Staff perspectives. Int J Ment Health Nurs. 2020; 440–50.

25. Leng M, Wei L, Shi X, Cao G, Wei Y, Xu H, et al. Mental distress and influencing factors in nurses caring for patients with COVID-19. Nurs Crit Care. 2020; (April 2020): 94–101.