



Predictors of Burnout Among Nurses in Asia During The Covid-19 Outbreak: A Literature Review

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A B S T R A C T

The Covid-19 outbreak induced worldwide disruption that required nurse responsibility to maintain professional nursing care during the viral infection. As healthcare workers, nurses experience stressful situations that are difficult to deal with. This article aimed to analyze the predictors of burnout among nurses in Asia. This article is a literature review that assessed the articles from databases of Scopus, Science Direct and Pubmed determined from 2020 until 2022 with English language approved. Nine articles are included in this review after meeting the inclusion and exclusion criteria. The inclusion criteria are the population was nurses in Asia with outcome was predictors of nurse burnout, and the study design was quantitative. The exclusion criteria are the outer Asia region of nurses with outcome predictors of other mental disorders, with a study design of qualitative or review. The predictors of burnout among nurses in Asia during the Covid-19 outbreak were individual and work-related factors. Individual factors are divided into demographic and psychological factors, whereas work-related factors are divided into nurse-job-related factors and nurse-patient-related factors. The nurses must continuously learn how to face the internal and external factors that may trigger nurse burnout, specifically in critical periods.

INTRODUCTION

The Covid-19 pandemic is known as a gripping situation that made people stay at home order. This worldwide disruption was announced on March 11, 2020, as a global pandemic caused by SARS-Cov-2 in Wuhan, China. The unpredictable situation of Covid-19 required the readiness of healthcare systems to deal with the uncertainty (Shalbfan, de Filippis and Hayek, 2022). Asia, the center of the spread of this viral infection, which started in China, indicated that Asia has more significant challenges than other countries requiring a fast response. The consequence of increasing burnout experience significantly due to overlap responsibilities of nurses than other healthcare workers (Matsuo *et al.*, 2020). The global pandemic increased stress levels when many healthcare workers have been asked to work outside of their usual place and to treat infected patients. Concerning the frontline, they performed nursing care direct to Covid-19 patients, specifically needing to treat in the isolation ward with the high level of personal protective equipment required (Bergeron *et al.*, 2022). Nurses have critical responsibilities as the frontlines who invited actively in the intervention to ensure the provided health care services when the demand increased during the pandemic, which required strong engagement among nurses to prevent the collapse of healthcare services (Fawaz, Anshasi and Samaha, 2020).

Through comparative analysis, Sullivan et al. (2022) found that nursing burnout before and during the pandemic proved that nurses had a higher burnout during the Covid-19 and during routine work (Ge *et al.*, 2023). Burnout is defined as a mismatch between stressors and the adaptive capacity or resiliency required to deal with those stressors, which results in emotional exhaustion, cynicism and loss of sense of meaning in work. This situation matters to nurses and health care services because it possible to affect the quality of nursing care delivery (Mayer, 2021). Nurses working during the Covid-19 pandemic are exposed to various stressors leading to occupational burnout, which affects emotional exhaustion, depersonalization, and a sense of personal achievement (Tomaszewska *et al.*, 2022).

The study in India revealed that burnout among nurses during the pandemic was associated with feeling stressed, dissatisfied with their current job, working in a chaotic, hectic environment and feeling that covid impacted mental health (Gupta *et al.*, 2021). The research in Israel, conducted in the first month of spreading the covid virus, proved that trait worry and psychological distress were significant predictors of burnout (M Khouri, Lassri and Cohen, 2022). Burnout among nurses was a significant predictor of the intention to leave a job, accompanied by anxiety and job position (Tabur *et al.*, 2022). The cross-sectional study conducted in the epicenter of the virus in Wuhan found that significant predictors of burnout were 12 factors grouped into social-demographic characteristics and work-related factors based on different dimensions of the burnout scale (Wan *et al.*, 2022).

Previous studies on burnout among nurses during the covid-19 outbreak indicated that nurses in Asia have different causes of burnout experience. They were commonly told that stressful situations induced burnout during the pandemic. No article assessed the predictors of nurse burnout which focused on the Asia region. This literature review is expected to deliver information about burnout predictors among nurses during the covid-19 outbreak, specifically in Asia.

METHOD

This study is a literature review arranged from journal database identification, including Scopus, Science Direct, and PUBMED, by screening the research conducted from 2020 to 2021. The literature focused on predictors of nurse burnout during a pandemic in Asia. English language studies with the cross-sectional method among the Asia region about nurse burnout are included, whereas the literature/systematic review and outer Asia region are excluded.

The Boolean searching method was used to look for the keywords of “predictors” OR “risk factor” AND “nurses” AND “burnout” AND “Covid-19”. There were 107 articles from those three databases in the beginning, and the remaining 87 articles were assessed after 20 articles were removed due to duplications. After that, 87 articles were assessed by inclusion and exclusion criteria according to the PICOS screening process. Based on the population, the nurse in the Asia region was included, but the outer Asia region was

excluded. The primary outcome of this review was predictors of nurse burnout, but not the other mental disorder. The quantitative cross-sectional study from 2020 to 2021 in English language was included, but the article with qualitative methods or reviews and other languages and published before 2020 were excluded.

Table 1. Inclusion and exclusion criteria based on the PICOS format.

Criteria	Inclusion	Exclusion
Population	Nurses in Asia region	Outer Asia region
Intervention	None	None
Comparator	None	None
Outcome	Predictors of nurse burnout	Predictor of other mental disorders
Study design	Quantitative cross-sectional	Qualitative study, literature review, systematic review
Publication year	2020-2021	Before 2020
Language	English	Indonesia or other languages

A total of 87 articles were assessed after entering keywords on Scopus, Science Direct and PUBMED databases. The screening resulted in 76 articles being excluded due to 11 articles involving the participant, not nurses, 21 articles in the outer region of Asia, 38 articles with unsuitable topics, and ten articles with other than quantitative cross-sectional method. Figure 1 shows the database searching process in this literature review.

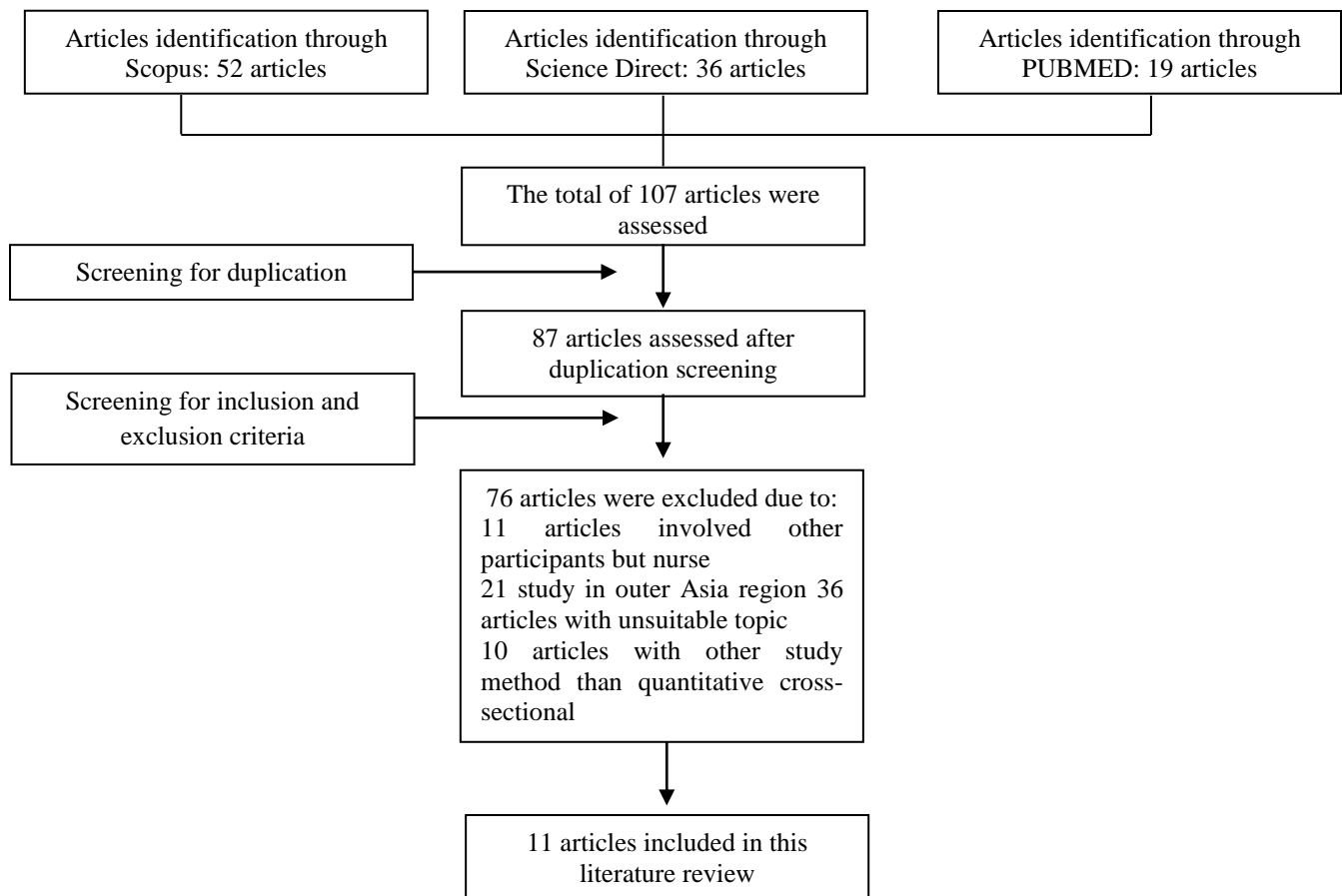


Figure 1. Flow diagram of literature searched and selection process

RESULT

This literature review analyzed 10 related *cross-sectional* studies that met inclusion and exclusion criteria. A review of those articles is presented in Table 2.

Table 2. Summary of the included articles reviewed

Author, year	Title (Location)	Method	Predictors of burnout
(Zare <i>et al.</i> , 2021)	Beyond the Outbreak of COVID-19: Factors Affecting Burnout in Nurses in Iran (Iran)	Cross-sectional	Workload, job stress and inadequate hospital resources for covid-19 prevention
(Jamebozorgi <i>et al.</i> , 2022)	Nurses Burnout, Resilience, and Its Association with Socio-Demographic Factors During COVID-19 Pandemic (Iran)	Cross-sectional	Hospital type, ward type, gender, and overtime
(Inocian <i>et al.</i> , 2021)	Professional quality of life and caring behaviors among clinical nurses during the COVID-19 pandemic (Saudi Arabia)	Cross-sectional	Age, education, religion
(M Khouri, Lassri and Cohen, 2022)	Job burnout among Israeli healthcare workers during the first months of COVID-19 pandemic: The role of emotion regulation strategies and psychological distress (Israel)	Cross-sectional	Trait worry and psychological distress
(Kamali <i>et al.</i> , 2022)	Occupational burnout in Iranian health care workers during the COVID-19 pandemic (Iran)	Cross-sectional	History of physical illnesses and psychiatric disorders
(Hajebi <i>et al.</i> , 2022)	Mental Health, Burnout, and Job Stressors Among Healthcare Workers During the COVID-19 Pandemic in Iran: A Cross-Sectional Survey (Iran)	Cross-sectional	Worry about family health condition, family worries about nurse health condition, lack of a specific treatment for covid-19
(Fateminia <i>et al.</i> , 2022)	Post-Traumatic Stress Disorder among Frontline Nurses during the COVID-19 Pandemic and Its Relationship with Occupational Burnout (Iran)	Cross-sectional	PTSD
(Mohammadi <i>et al.</i> , 2021)	Resilience, occupational burnout, and parenting stress in nurses caring for COVID-19 patients (Iran)	Cross-sectional	Resilience, parenting stress, marital status, number of children, employment status, and gender
(AlJhani <i>et al.</i> , 2021)	Burnout and coping among healthcare providers working in Saudi Arabia during the COVID-19 pandemic (Saudi Arabia)	Cross-sectional	Having a close person infected with COVID-19, being assigned to treat COVID-19 patients, longer working hours, having sleeping hours affected by the pandemic and experiencing verbal or physical abuse of patients
(Matsuo <i>et al.</i> , 2020)	Prevalence of Health Care Worker Burnout During the Coronavirus Disease 2019 (COVID-19) Pandemic in Japan (Japan)	Cross-sectional	Women, less experience, anxiety due to protection, and desire to reduce workload
(Zakaria <i>et al.</i> , 2021)	Assessment of burnout among emergency medicine healthcare workers in a teaching hospital in Malaysia during COVID-19 pandemic (Malaysia)		Demand coping with an angry public, job overload, lack clear guideline or rapid program change, pay too little

The primary assessment of the included studies is the predictors of burnout among nurses during a Covid-19 pandemic which focuses on the Asia region as the epicenter of Covid-19 viral infection. Those factors were identified and divided into individual characteristics and work-related factors. The individual characteristics are the factors that came from the nurses’ selves, such as demographic and psychological factors. The work-related factors revealed the factors that appeared due to the interaction between the worker and the workplace. These factors are presented in Table 3.

Table 3. Identification of predictors of burnout among nurses in Asia during the Covid-19 outbreak

Individual characteristics	Work-related factors
Demographic factors:	Nurse-job-related factors:
- Gender (Matsuo <i>et al.</i> , 2020; Mohammadi <i>et al.</i> , 2021; Jamebozorgi <i>et al.</i> , 2022)	- Workload, overtime job, job stress (AlJhani <i>et al.</i> , 2021; Zare <i>et al.</i> , 2021; Jamebozorgi <i>et al.</i> , 2022; Zakaria <i>et al.</i> , 2021)
- Marital status and number of children (Mohammadi <i>et al.</i> , 2021)	- Hospital/ward type (Jamebozorgi <i>et al.</i> , 2022)
- Age, education and religion (Inocian <i>et al.</i> , 2021)	- Inadequate resources (Zare <i>et al.</i> , 2021; Hajebi <i>et al.</i> , 2022)
Psychological factors:	Nurse-patient-related factor:
- Worry and psychological distress (AlJhani <i>et al.</i> , 2021; Hajebi <i>et al.</i> , 2022; Marlyn Khouri, Lassri and Cohen, 2022)	- Physical/verbal abuse (AlJhani <i>et al.</i> , 2021)
- History of physical and mental illness (Fateminia <i>et al.</i> , 2022; Kamali <i>et al.</i> , 2022)	- Coping with the angry public (Zakaria <i>et al.</i> , 2021)
- Resilience (Mohammadi <i>et al.</i> , 2021)	

Based on the identifications of burnout among nurses during pandemic, individual characteristics and work-related factors are predictors. Individual characteristics are demographic factors and psychological factors that contribute to nurse burnout. Work-related factors are divided into nurse-job-related factors and nurse-patient-related factors.

DISCUSSION

As an inherently stressful profession, professional nurses must provide nursing care in various healthcare settings (Waddill-Goad, 2016). Burnout among nurses is expected in early career nurses, which identified through various chronic stressors within the nursing profession (Zangaro, Dulko and Sullivan, 2022). Maslach *et al.* (2001) define burnout as primarily associated with depleting nurses' emotional resources linked to increased chronic stress, expressed as chronic fatigue syndrome (Iadanza, 2019). Burnout is not an objective phenomenon but the accumulation of a certain number or type of stressors that might affect every area of life and require the ability of nurses to adapt (Yoder-Wise and Sportsman, 2022).

Individual characteristics

In identifying nurses' burnout predictors based on individual characteristics, the most mentioned factor from individual characteristic was gender. Mohammadi *et al.* (2021), Matsuo *et al.*, (2020), and Jamebozorgi *et al.*, (2022) found that being a female nurse is a predictor of burnout experience during a Covid-19 pandemic. Guttormson *et al.*, (2022) also found the result in line with this literature review that

burnout was higher among female nurses. A similar study also found that female nurses were at a greater risk of burnout across work and patient-related areas (Stufano, Vimercati and Awoonor-Williams, 2022). Concerning gender, as a female and being younger identified as increased risk of burnout because experienced more emotionally exhausted (Bartos, 2020).

Mohammadi *et al.*, (2021) and Çelik and Kiliç, (2022) mentioned marital status and having children in the family were which also correlated with parenting stress as a nurse. Marital status and having children during the Covid-19 era also mentioned in the study by the hectic pandemic requires a nurse to focus on health care services, increasing the workload and less time to concern the family needs. The family's unmet needs affect mothers' emotions regarding their relationship are physically separated. The qualitative study by Coşkun Şimşek and Günay, (2021) found that nurses who have children were afraid of being infected and possibly transmitting the viral infection to them. On the other hand, the nurses loved their profession but did not consider quitting.

Younger age, low education level and religion are only mentioned by (Inocian *et al.*, 2021). Based on age, working conditions during covid more affected younger age in the study by Guttormson *et al.*, (2022). It is also related to less experience, specifically in nurses who work in critical care. Younger nurses are stated to be more vulnerable to burnout due to being less familiar with handling extreme situations such as a pandemic related to infection control, protective measures and difficulty in facing the suffering and dying of patients (Galanis *et al.*, 2021). Low education level was also identified as a factor of burnout that expressed emotional exhaustion in Pujiyanto, Mendrofa and Hani, (2022), which was associated with less experience in charge in the Covid-19 ward. Conversely, Jamebozorgi *et al.* (2022) proved that education status is a leading predictor of a high level of resilience. Another study mainly assesses the religiosity of the spiritual aspect, indicating that healthcare workers need to have religious beliefs (Chow *et al.*, 2021). In the study by Chang *et al.*, (2021), a religion expressed in religious faith impacts mental health and happiness.

Based on psychological factors, the most predictor of burnout was worry and psychological distress, which were mentioned in the articles by AlJhani *et al.*, (2021), Hajebi *et al.*, (2022), Marlyn Khouri, Lassri and Cohen, (2022). Dale *et al.*, (2021) found a similar result that worry is a significant factor in exhaustion as a burnout aspect. Worry and psychological distress profoundly exacerbated employee mental health issues during the Covid-19 outbreak and negatively affected work performance (Sun *et al.*, 2022).

History of physical and mental illness is also crucial as a burnout predictor, as mentioned in the study of Fateminia *et al.*, (2022) and (Kamali *et al.*, 2022) among nurses in Asia. It also includes resilience from the study by Mohammadi *et al.*, (2021). When burnout has a solid correlation with exhaustion and depression, the history of mental illness may outweigh the burnout condition among nurses (Ulfa, Azuma and Steiner, 2022). A similar study by Zakeri *et al.*, (2021) proved that psychological stress, anxiety and depression

were high during the first wave of Covid-19 viral infection as a predictor of job burnout. Resilience stated has a negative correlation with burnout (Bashirian, 2021).

Work-related factors

The identification of those articles revealed work-related factors of burnout, which workload, overtime job and job stress as a significant factor of burnout (AlJhani *et al.*, 2021; Zakaria *et al.*, 2021; Zare *et al.*, 2021; Jamebozorgi *et al.*, 2022). Elshaer *et al.*, (2019) found a similar result: job stress was significantly correlated with burnout syndrome of nurses in the surgical ward and ICU. Overtime jobs and overload responsibility in nursing care were also mentioned in the research by Wan *et al.*, (2022) that working more than 9 hours per day and night shift schedule more than three times a week as the variables.

Hospital/ ward time was also found to affect nurses' burnout (Jamebozorgi *et al.*, 2022). In line with this review, Toscano, Tommasi and Giusino, (2022) found the high level of burnout of nurses who work in the ICU. The research conducted by Javadi *et al.*, (2021) compares burnout in Covid-19 and non-Covid-19 wards. The burnout was highest in Covid-19 wards in variables of depersonalization and exhaustion.

Inadequate resources were identified as a predictor of burnout among nurses (Zare *et al.*, 2021; Hajebi *et al.*, 2022). This literature review finding align with prior research (Khan, Bruyneel and Smith, (2022), Al Thobaity and Alshammari, (2020) and Moreno-Jiménez *et al.*, (2021)), that noted the lack of material and personal protective equipment (PPE) as a predictor of nurses' stress. Ustun, (2021) revealed that lack of PPE directly leads to stress among nurses.

Concerning nurse-patient relations, physical/verbal abuse from the patient induces burnout among nurses (AlJhani *et al.*, 2021). The angry public emotional situation also induced burnout among nurses (Zakaria *et al.*, 2021). It is also found in the review by Davis, (2021) that provoked burnout, whereas rarely reported. Starting from the decrease in job satisfaction, the experience of patient abuse is responsible for the increasing burnout risk in the study by Schablon *et al.*, (2022).

In this literature review, the predictors of burnout among nurses in Asia are categorized into individual and work-related factors. Each factor is divided into two factors that have been proven to induce burnout among nursing during the covid-19 pandemic, specifically in nurses in Asia. There are required concerns by the healthcare system to overcome the risk factors to prevent prolonged burnout among nurses.

CONCLUSION

The predictors of burnout among nurses in Asia during the Covid-19 outbreak were individual and work-related factors. Individual factors are divided into demographic and psychological factors, while work-related factors are divided into nurse-job-related factors and nurse-patient-related factors. The nurses must continuously learn to maintain the internal and external factors that trigger nurse burnout, specifically in the critical period.

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