

## Article

# Burnout and Contributing Factors to Burnout Among Indonesian Healthcare Workers Before and During COVID-19 Pandemic

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### Abstracts

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**Introductions:** The prevalence of burnout among health workers in Indonesia varies. During the Coronavirus Disease 2019 (COVID-19) pandemic, there was an increase in burnout among health workers. Many factors can affect the prevalence of burnout in health workers. Objectives: to provide an overview of the prevalence and factors that influence burnout among healthcare workers in Indonesia **Methods:** The writing of this article uses the literature search method. Literature searches used the Pubmed and Google Scholar search engines, using literature within a time limit of 3 years before and three years during the COVID-19 pandemic. **Results:** It is known that the prevalence of burnout before the COVID-19 pandemic reached 19.8%–62.85%, and during the COVID-19 pandemic reached 5.2%–82%. For factors that affect burnout before and during the COVID-19 pandemic, there is not much difference between factors such as age, gender, marital status, type of work, workload, stress level, length of service, number of hours worked per week, and level of education. In several studies before the COVID-19 pandemic, additional factors such as religiosity, work environment, and organizational structure leadership were found. In contrast, during the COVID-19 pandemic, there were other risk factors, namely the risk of transmission of COVID-19, educational background, and access to psychological services. **Conclusions:** By knowing the factors related to burnout, it is hoped that it can be used as a step to form an effective and efficient management system to overcome burnout

**Keywords:** Burnout, COVID-19, epidemiology, healthcare workers, mental health

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## Introductions

When a job is not carried out or adequately organized, this will have an impact on the worker, namely burnout. Burnout is a stress or psychological syndrome when a person experiences chronic job stress [1,2]. The term burnout was introduced by Freudenberg (1974) when he observed several workers in mental healthcare clinics who experienced a loss of motivation and decreased commitment. Then, Maslach et al. developed a measuring tool called the Maslach Burnout Inventory (MBI), which is most often used to measure burnout [2,3].

The prevalence of burnout in various populations of healthcare workers has varied between studies. For example, it is estimated that 76.9% of surgeons experience burnout [4], 11.23% of nurses [5], and 2.46-70.25% of general practitioners [6]. During the Coronavirus Disease (COVID-19) pandemic of 2019, there was an increase in the incidence and severity of burnout among medical personnel [7,8]. Burnout can have a significant negative impact on sufferers. Someone with burnout can experience abuse, damage to relationships with other people, and even suicidal thoughts. Regarding work performance, burnout in healthcare workers can cause therapeutic errors in patients, reporting errors, and malpractice .

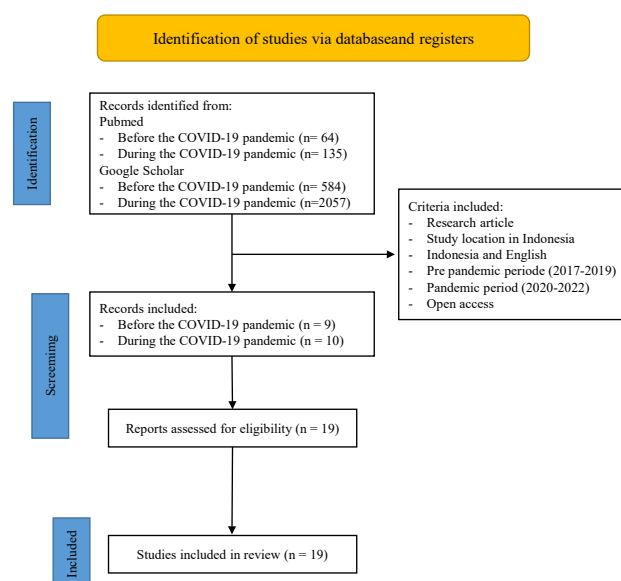
Various factors are known to influence the occurrence of burnout in healthcare workers. These factors include young age, low income, piling up of cases, lack of time with family, complicated issues, excessive working time, type of specialization, and so on [9–11]. Studies on burnout have been carried out in many countries, including Indonesia. This article aims to describe the prevalence of burnout and the factors that influence it in healthcare workers in Indonesia before and during the COVID-19 pandemic.

## Method

Using information from a literature search, this article was created. Pubmed and Google

Scholar are used to conduct a literature search. Indonesian and English literature courses are offered. Three years (2017–2019) are utilized as the pre-pandemic period, and three years (2020–2022) are regarded as the pandemic period in the literature. A study that discusses the incidence of burnout and its causes must be considered literature; the studies must be fully accessible. In this article, the term “healthcare workers” refers to those working in the medical field, including nurses, general practitioners, and specialists. The words “burnout,” “prevalence,” “physician,” “nurse,” “healthcare workers,” and “Indonesia” are used in English, whereas “burnout,” “prevalence,” “dokter,” “perawat,” and “tenaga kesehatan,” in Indonesian, are employed.

According to Pubmed search results, there were 64 burnout articles in Indonesia (before the COVID-19 pandemic) and 135 articles (during the COVID-19 pandemic). According to a Google Scholar search, there were 584 publications (published before the COVID-19 pandemic) and 2057 articles (published during the COVID-19 pandemic). There were nine articles (before the COVID-19 pandemic) and ten articles (during the COVID-19 pandemic) that were accessible after being chosen from a pool of research articles with a sample of healthcare workers, figure 1.



## Reviews

The prevalence of burnout in Indonesia before and during the pandemic is about 19.8%-62.85% and 5.2%-82% (table 1 and table 2). Factors that influence healthcare workers in Indonesia before and during the COVID-19 pandemic are age, gender, work experience history, workload, working time,

work environment, stress level, spirituality/beliefs, limited access to psychological services, level of education, marital status, leadership management, contact with COVID-19 patients, seniority and type of job (table 3). Table 1. Prevalence and factors related to burnout in healthcare workers (before the COVID-19 pandemic)

**Table 1.** Prevalence and factors related to burnout in healthcare workers (before the COVID-19 pandemic)

Years	Sample	Locus study	Prevalence	Factor associated <i>burnout</i>	Ref
2017	138 nurses	Cilandak Marine Hospital, South Jakarta	The prevalence of severe burnout is 59.4%.	Related factors: heavy workload and poor work environment.	[12]
2017	86 nurses	Sanglah General Hospital, Denpasar	The prevalence of severe burnout reached 19.8%, and moderate burnout reached 22.1%.	Related factor: work experience history	[13]
2017	31 nurses	General hospital Prof. Dr. Margono Soekarjo, Purwokerto	The prevalence of severe burnout reached 22.6%, and moderate burnout reached 48.4%.	A related factor is stress level.	[14]
2018	4092 healthcare workers in ICU, multinational study (Indonesia: 61 participants)	Army Central Hospital Gatot Soebroto, Budhi Asih General District Hospital, Dr. Soetomo Hospital, Grestelina General Hospital, Soetomo Hospital Surabaya, Mitra Satelit Surabaya, National Hospital, Prima Satya Husada Citra Hospital, Royal Taruma Hospital, RS Panti Wilasa, RSUD Raden	The prevalence of burnout reaches 49.2%.	<b>Physician</b> Protective factors: having a religion, number of years working in the current department, having work shifts, stay-home night calls per month. Related factors: number of working days/month <b>Nurse</b> Protective factors: have a religion, can balance personal-work life. Related factor: high level of education	[15]
2018	197 nurses	Raden Mattaaher Hospital and Abdul Manap Hospital, Jambi	The prevalence of moderate burnout is 50.8% and severe burnout (28.4%)	A related factor: high workload	[16]

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2019	70 midwives	Health Center in Bengkulu City	The prevalence of severe burnout is 60%	Related factors: young age and low work motivation.	[17]
2019	485 nurses	Dr Saiful Anwar Hospital, Dr Soetomo Hospital, Ngudi Waluyo Hospital	The prevalence of nurses with symptoms of emotional exhaustion is 47%, depersonalization (48%), and dissatisfaction with self-achievement (48.8%).	Gender and work experience related to signs of emotional exhaustion; marital status about symptoms of decreased self-satisfaction; respondent's age and employment status related to depersonalization symptoms	[18]
2019	35 nurses	Pekanbaru Medical Center Hospital.	The prevalence of burnout reaches 62.85%.	Related factors: heavy workload and authoritarian organizational leadership.	[19]
2019	58 nurses	Inche Abdoel Meois Hospital, Samarinda	The prevalence of severe burnout reaches 53.9%.	Related factor: head nurse leadership style	[20]

**Table 2.** Prevalence and factors related to burnout in healthcare workers (during the COVID-19 pandemic)

Years	Sample	Locus study	Prevalence	Results	Ref
2020	34 nurses	Bhayangkara Hospital, Palembang	The prevalence of moderate burnout is 41.2%.	Related factors: age, gender, marital status, education, work experience history, workload, and stress at work.	[21]
2020	39 nurses	Queen Zalecha Martapura Hospital, Banjar	The prevalence of severe burnout reaches 46.15%.	Related factors: there is no relationship between age, education level, work experience history, and stress at work on the incidence of burnout.	[22]
2021	544 healthcare workers consisting of doctors (144 people), nurses (124 people), others (276 people)	The specific location is not mentioned	The prevalence of burnout reaches 42.4%; in the high-risk group of healthcare workers (contacts with COVID-19 patients), 26.6% experienced burnout compared to those who did not contact patients with COVID-19 (15.8%).	Related factors: contact with COVID-19 patients	[23]

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2021	683 gastroenterologists, multinational research (Indonesia: 195 respondents)	The specific location is not mentioned	The prevalence of burnout is 5.2%. The prevalence of doctors with symptoms of emotional exhaustion is 12.3%, depersonalization (4.6%), and dissatisfaction with self-achievement (25.1%).	Associated factors: stress at work, depression, lack of access to psychological services.	[24]
2021	841 pediatric residents	The specific location is not mentioned	The prevalence of fatigue symptoms is 52%, and disengagement is 63%.	Related factors: Symptoms of fatigue: class (junior) Symptoms of disengagement: marital status, generation	[25]
2022	1077 healthcare workers consisting of doctors (427 people), nurses (549 people), others (101 people)	Saiful Anwar Hospital, Kanjuruhan Hospital, Persada Hospital, Panti Waluya Hospital, Wava Husada Hospital	The prevalence of burnout is 22%, with symptoms of severe emotional exhaustion at 20.6%, severe depersonalization (9.8%), and severe dissatisfaction with self-achievement (0.9%).	Related factors: male gender, young age (<40 years), single, doctor, and long working hours (>70 hours/week)	[26]
2022	86 residents	The specific location is not mentioned	The prevalence of residents with symptoms of severe emotional exhaustion (31.4%), moderate (29.1%); severe depersonalization (25.6%), medium (24.4%); and extreme self-achievement dissatisfaction (46.5%), average (20.9%).	Related factors: complicated case finding (for the depersonalization domain), surgical residents (for the emotional exhaustion domain), and high working hours (for the self-dissatisfaction domain).	[27]
2022	120 surgical residents	Tertiary referral hospital	The prevalence of residents with symptoms of severe emotional exhaustion (12.5%), moderate (15.0%); severe depersonalization (13.33%), medium (19.17%); and severe self-achievement dissatisfaction (43.33%), average (25.83%).	Associated factors: high working hours (> 70 hours/week); marital status, surgical specialty, years of residency, and working hours related to emotional exhaustion; surgical specialty related to depersonalization.	[11]



2022	1381	The specific location is not mentioned	The prevalence of burnout reaches 18%	Associated factors: high risk (contact with COVID-19 patients), working hours longer than usual, lack of adequate personal protective equipment, and poor teamwork.	[28]
		healthcare workers (multinational study, 368 from Indonesia)			

**Table 3.** Summary of prevalence and factors influencing burnout before and during the COVID-19 pandemic

	Before COVID-19 pandemic	During COVID-19 pandemic
<b>Prevalence</b>	19.8%-62.85%	5.2%-82%
<b>Factors related burnout</b>	Age [19], [20] Gender [20] Marital status [20] Type of job [20] Workload [14, 18, 21] Environment [14] Stress level [16] Work experience history [15, 17] Number of days/hours worked per week [17] Spirituality [17] Education level [17] Leadership organizational structure [21, 22]	Age [23, 28] Gender [23, 28] Marital status [23,27,28,30,32] Type of job [28-30, 32] Workload [23] Risk transmission of COVID-19 [25, 31, 32] Stress level [23, 24, 26] Work experience history [23, 24] Number of days/hours worked per week [28-31] Education level [23, 24] Junior education [27, 30] Access to psychological services [26]

### Discussion

Results of various burnout prevalence levels were found in this literature search. Various factors, including diverse burnout measurement tools in various studies and variations in working conditions, bring about this variation. For instance, the study by Ong et al. [24] discovered that the prevalence of burnout among gastroenterologists (195 respondents) was 5.2%. Even though Indonesia had the fewest cases of burnout among other Southeast Asian nations regarding patient volume, this prevalence was still higher than those of several other nations in the region. This might occur because gastroenterologists in Indonesia work an average of about 40 hours per week, giving them enough time to rest. However, this does not rule out the possibility that other factors also influence the prevalence of this burnout.

Burnout was shown to be extremely common (82%), according to a different study by Soemarko et al. [29]. This may be because there was a greater sample size and a more comprehensive range of healthcare professionals (most general practitioners, midwives, and nurses). Most of the three professions work as front-line healthcare providers who interact with patients for the first time before referring them to specialists or other healthcare professionals who are more qualified to handle their care, making it possible for this study or other studies to determine the prevalence of burnout.

There is a relatively significant difference in the prevalence of burnout before and after the pandemic. This can occur due to differences in each study regarding the number of respondents, the type of work of respondents, how burnout is measured, and

factors related to burnout. In addition, we only found one article from the articles we analyzed that discussed burnout in specialist doctors, namely gastroenterologists [24], so we could not compare the prevalence of burnout and burnout-related factors between specialist doctors.

Burnout is identified when the MBI questionnaire yields significant emotional tiredness (score 27), depersonalization (score 10), or low self-satisfaction (score 40), as another illustration of how variations in techniques can affect the occurrence of burnout [11]. The General Oldenburg Burnout Inventory (OLBI) questionnaire, which includes tiredness and disengagement dimensions (similar to depersonalization in MBI), is used by others in this study [25].

Factors that influence it in healthcare workers

Age

Young age ( $\leq 40$  years) is associated with an easier burnout of 3.17-3.51 times compared to someone with an older age [17,26]. Conceptually, the older a person is, the more mature a person is in dealing with various situations.

Gender

The relationship between gender and burnout is still much debated. In some studies, it is known that burnout occurs more frequently in women than men [21,30,31], while in other studies, the opposite results are found [26,32]. This difference can be due to differences in the system/culture in the workplace, for example, determining schedules or workloads that are more amplified in men.

Work experience history

Work experience history ( $> 10$  years) is associated with burnout. This is suspected as a result of more extended working periods, which will make work feel like monotony and can trigger boredom and feeling unenthusiastic. This can lead to a desire to stop working even though the work involves responsibility for one's life.

Workload

A person with a heavy workload is at risk of experiencing burnout by 2.4 times [12]. The workload that a person will accept must follow the physical, cognitive, and skills possessed to prevent fatigue due to an inappropriate workload.

Working time

Long working time ( $\geq 70$  hours/week) increases a person's risk of experiencing burnout by 1.26-3.83 times compared to someone with less than 70 hours of work time [26]. Another study of 457 doctors in Shanghai (China) showed that working hours working more than 60 hours/week increases the risk of burnout by 4.54 times. High working hours can reduce rest time and increase exposure to stress at work [33].

Work environment

A bad work environment can increase the risk of burnout by 2.4 times [12]. Harmful environments include limited medical equipment, inconsistent soundproof privacy rooms, unpleasant room color lighting, bathroom access, inadequate room temperature, and so on [34]. Theoretically, an adequate and pleasant work environment (including access to workplaces, facilities, and rooms) can positively impact a person's psychology, such as stress relief.

Stress level

Someone who experiences stress at work tends to burn out by 4.41 times [24]. Stress that lasts a long time and continuously causes a person to experience emotional exhaustion. If a person is unable to manage stressful conditions, this can lead to distress, unable to cope with stressful situations, and tends to run away from problems.

Spirituality/beliefs

Spirituality shows that someone active in worship activities tends to be less likely to experience burnout than someone who is not actively worshipping [15,35,36]. Someone with spirituality believes that his work is beneficial and contributes to the good of himself and others. Other. The individual will also have a deep relationship with fellow human beings [37].



### Limited access to psychological services

Access to psychological services is essential to diagnose psychological problems so they can be treated and managed appropriately. The limitations of mental health services can impact the increasingly chronic mental health of healthcare workers, so it is feared that it can reduce the performance of healthcare workers' services in health facilities [28].

### Level of education

A high level of education is also associated with the occurrence of burnout. This is presumably because the higher a person's educational status and seniority, the greater the responsibility. In addition, when faced with a case with alarming results, high expectations of someone highly educated will tend to result in the individual experiencing disappointment [29].

### Marital status

The relationship between burnout and marital status is still being debated. This is because there are still several studies that get different results. This difference could exist due to sociocultural and demographic differences among the respondents. For example, conceptually, someone who has a partner who can provide social support generally tends to experience burnout rarely; on the other hand, for example, a woman who is working and married may manage to burnout more easily because, in some areas, it may require that a woman must also be able to become a mother for her children and to be a good wife to her husband [11].

### Leadership management

Bad leadership management, for example, for the head of the room, can burden healthcare workers in carrying out their duties. Leaders who do not have the skills to match each member's ability with the appropriate workload will tend to make their members experience burnout. In addition, the instructions of the head of the room, who does not have good communication skills, tend to make their members experience confusion and stress at work [19].

### Contact with COVID-19 patients

Since the COVID-19 pandemic, there has been an increase in burnout among healthcare workers. The prevalence of burnout is higher in healthcare workers in intensive care units (ICU) and healthcare workers who are residents and nurses. COVID-19 causes healthcare workers to face life-threatening situations, exposure to the virus, and an even greater workload. Apart from that, COVID-19 also creates concern for healthcare workers who can transmit the virus to their families [38].

### Seniority

Seniority in this article differs from age. Seniority here means the status of health workers, for example, a junior resident with an advanced resident (senior). Residents at the initial level (junior) experience burnout more easily (1.48 times) than those at an advanced stage. This is presumably because junior-level residents have a higher workload and lack experience and responsibility than senior residents [25].

### Type of job

Between surgical residents, there are differences in the prevalence of burnout between types of surgical specialties such as general surgery, orthopedics, urology, and so on in various studies [11]. Regarding comparisons between healthcare workers, no significant differences were found between general practitioners and other healthcare workers regarding the incidence of burnout [29]. Another study by Štěpánek et al. (2023) found that doctors more often experience emotional exhaustion and depersonalization than non-physician healthcare workers. In another study, different results were obtained. Namely, nurses experienced higher emotional exhaustion than doctors [39].

Working more than usual or a lot (more than 70 hours per week), having a heavy workload, experiencing a lot of stress at work, and having a hostile workplace are all factors that are frequently linked to this burnout. Of course, these risk factors must be immediately addressed to avoid burn-



out's negative impacts. The consequences of this burnout may be detrimental to you and those around you. Reduced job satisfaction, absenteeism, cynicism, negative emotions, anxiety, substance misuse, isolation, and the collapse of social and family ties all affect oneself. The impact on other people may result in a lack of professionalism in handling patients, which results in subpar patient care, unhappy patients, and malpractice in taking [2].

Physical, mental, and emotional exhaustion brought on by burnout can make someone lose their enthusiasm and drive for work. The longer the work experience is, the higher the possibility of them becoming exhausted. The COVID-19 pandemic caused more workload and working time, which can be a source of stress. The existence of burnout in health workers can increase risk factors for mental illness such as depression [40]. Collaboration between different parties, including clinical management or hospital management where healthcare workers work, is necessary to combat burnout in healthcare workers. We arrange for the placement of healthcare workers or rotation every three months, providing entertainment facilities like karaoke, sports facilities, and facilities for performing religious worship, based on the author's experience working in a quarantine center during the COVID-19 pandemic. To reduce burnout in health workers during a pandemic and not a pandemic, it is better to provide routine counseling activities for each health worker and other activities to refresh the health worker, such as outbound, gymnastics, yoga, and others.

### Conclusions

Stress from work causes a variety of psychological problems known as burnout. Before and during the COVID-19 pandemic, burnout was prevalent in Indonesia at 19.8%-62.85% and 5.2%-82%, respectively. For factors that affect burnout before and during the COVID-19 pandemic, there is not much difference between factors such as age, gen-

der, marital status, type of work, workload, stress level, length of service, number of hours worked per week, and level of education. This may be caused by the limitation of the research done in the pandemic era, which cannot show the actual circumstances. In several studies before the COVID-19 pandemic, additional factors such as religiosity, work environment, and organizational structure leadership were found. In contrast, during the COVID-19 pandemic, there were other risk factors, namely the risk of transmission of COVID-19, educational background, and access to psychological services. It is essential to recognize the causes of burnout in healthcare workers so that appropriate treatment may be found to address these causes and lower the occurrence of burnout in this population.

### Conflict of Interests

The authors have no conflicts of interest to declare.

### Fundings

None

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