

## **BURNOUT AND RELATED FACTORS IN HOSPITAL HEALTH WORKERS AFTER ONE YEAR OF THE COVID-19 PANDEMIC**

**Wening Tri Mawanti<sup>1</sup>, Astrid Sulistomo<sup>1</sup>, Fijar Mohamad<sup>1</sup>, Marsha Vania<sup>1</sup>, Nofrizal N.<sup>1</sup>**  
<sup>1</sup>Medical Faculty, Prof. DR. Hamka University (UHAMKA)

Corresponding author: wening\_occupationalmed@uhamka.ac.id

### **Abstract**

Workload, fear of contracting Covid-19 or the use of high levels of personal protective equipment which causes discomfort and exhaustion are some of the potential factors that can cause burnout in hospital health workers. The aims of this study were to determine the prevalence and factors related to burnout in hospital health workers after one year of the covid-19 pandemic. This study used a cross-sectional design and the Indonesian version of the Maslach Burnout Inventory (MBI) questionnaire to diagnose burnout. In the Maslach Burnout Inventory (MBI) questionnaire, burnout is grouped into the following three dimensions: a) emotional fatigue, b) loss of empathy, and c) self-esteem. The MBI questionnaire was distributed using a Google form (G-form). Data processing and analysing was conducted using SPSS version 20.0 program. A total of 135 health workers filled out the G-form questionnaire and it was found that 39.3% of them experienced burnout. Factors significantly related ( $p < 0,05$ ) to burnout were higher education with ORa 4.10 (95% C.I.= 1.66 – 7.27) and shift work with ORa 2.44 (95% C.I.= 1.02 -5.86). The prevalence of burnout for health workers at the one of private Hospital in East Jakarta after more than 1 year of the Covid-19 pandemic was 39.3%. Factors that are significantly related to burnout are the level of education and shift work patterns.

**Keywords:** burnout, health workers, hospital, Covid-19

## ***KONDISI EMOSIONAL DAN FAKTOR TERKAIT PADA PEKERJA KESEHATAN RUMAH SAKIT SETELAH SATU TAHUN PANDEMI COVID-19***

### ***Abstrak***

*Beban kerja, ketakutan tertular Covid-19 atau penggunaan alat pelindung diri tingkat tinggi yang menyebabkan ketidaknyamanan dan kelelahan merupakan beberapa faktor potensial yang dapat menyebabkan terjadinya burnout pada tenaga kesehatan rumah sakit. Penelitian ini bertujuan untuk mengetahui prevalensi dan faktor yang berhubungan dengan burnout pada tenaga kesehatan rumah sakit setelah satu tahun masa pandemi covid-19. Penelitian ini menggunakan desain cross-sectional dan kuesioner Maslach Burnout Inventory (MBI) versi bahasa Indonesia untuk mendiagnosis burnout. Dalam kuesioner Maslach Burnout Inventory (MBI), burnout dikelompokkan ke dalam tiga dimensi berikut: a) kelelahan emosional, b) kehilangan empati, dan c) harga diri. Kuesioner MBI disebar menggunakan Google form (G-form). Pengolahan dan analisis data dilakukan dengan menggunakan program SPSS versi 20.0. Sebanyak 135 tenaga kesehatan mengisi kuesioner G-form dan didapatkan 39,3% diantaranya mengalami burnout. Faktor yang berhubungan signifikan ( $p < 0,05$ ) dengan burnout adalah pendidikan tinggi dengan ORa 4.10 (95% C.I.= 1.66 – 7.27) dan kerja shift dengan ORa 2.44 (95% C.I.= 1.02 -5.86). Prevalensi burnout tenaga kesehatan di salah satu Rumah Sakit Swasta di Jakarta Timur setelah lebih dari 1 tahun masa pandemi Covid-19 adalah 39,3%. Faktor yang berhubungan signifikan dengan burnout adalah tingkat pendidikan dan pola kerja shift.*

***Kata kunci:*** burnout, tenaga kesehatan, rumah sakit, Covid-19

## INTRODUCTION

The Covid-19 pandemic has been going on for more than a year. Health workers who provide care and services to sick people, either directly or indirectly, are at risk of experiencing mental health disorders, including burnout; as a sequence of the Covid-19 pandemic (Holly Blake et.al., 2020). In several countries, health workers have been reported experiencing burnout, such as 52% in India, while a study in Indonesia reported 83% of health workers were experiencing burnout, in 2020, during the peak of the pandemic (Geetha R. Menon, et.al., 2022, Soemarmo D. S., et.al., 2020).

Burnout is a psychological syndrome that appears as a response to interpersonal stress in a prolonged work, which consists of three dimensions: emotional exhaustion (exhaustion), loss of empathy (depersonalization), and low self-esteem. Burnout can be influenced by several factors, namely job factors, such as the type of work, job demands, and others (Christina Maslach et.al., 2016, Stefan De Hert, 2020). Other factors that influence the onset of burnout are individual factors, such as age, gender, marital status, education, and others (Jaroslava Raudenska et.al., 2020). Burnout experienced by health workers can have a negative impact on work performance, including absenteeism from work, low work productivity, personal conflicts with colleagues, reduced quality of care, risk of medical errors, and others (Dike Drummond, 2016, Cintia de Lima Garcia, et.al., 2019).

Therefore, it is important to know the prevalence of burnout in health workers at one of the Covid-19 referral hospitals in Jakarta and identify the factors that influence the occurrence of burnout so that preventive measures can be taken against the risk of developing mental health disorders in health workers. Furthermore, the negative effects of mental health disorders on patient care can be avoided.

## METHODS

This study used a cross-sectional design, conducted at the Pondok Kopi Jakarta Islamic Hospital which is a Covid-19 referral hospital. Data collection carried out between September and October 2021. The research subjects were health workers at the

Hospital who have been working for at least one year and were willing to take part in the research. The exclusion criteria were health workers undergoing self-isolation or being on a doctor's sick leave, during the data collection time.

The number of samples needed for this study was calculated using sample size calculator. The prevalence of burnout among health workers in Indonesia was adopted from Soemarmo D.S. study which was 83%.<sup>3</sup> With a CI of 95%, and an error rate of 5%, a sample size of 217 people was obtained.

The research instrument used was the Indonesian version of the Maslach Burnout Inventory questionnaire. This instrument consists of 22 questions that describe the three dimensions of burnout as follows :

1. Emotional exhaustion, consisting of 9 questions, divided into three categories: high (score  $\geq 27$ ), moderate (score 17-26), low (score 0-16)
2. Loss of empathy, consisting of 5 questions, divided into three categories: high (score  $\geq 13$ ), moderate (score 7-12), low (score 0-6)
3. Self-esteem, consisting of 8 questions, divided into three categories: high (score  $\geq 39$ ), moderate (score 32-38), low (score 0-31)

If the score of at least one group question was categorized as "high" then he/she was categorized as having "burnout".

The questionnaire instrument was distributed online using as a Google form (G-form). Data processing and analysing was conducted using SPSS version 20.0 program. Multivariate analysis was carried out after bivariate analysis to determine the factors most related to burnout and to exclude confounding factors. This multivariate analysis included variables that had a  $p$ -value  $< 0.25$  in the bivariate analysis.

## RESULTS

### Characteristic of respondent

From 567 health workers at the hospital, 228 health workers were given the questionnaires and 135 responded by filling to the questionnaires. This number of samples did not reach the expected number of samples, namely 217 people, but still had a power of 94%. The characteristics of respondents in this study consisted of

individual and occupational characteristics as shown in table 1 below.

**Table 1.** Distribution of Respondents by Individual and Occupational Characteristics

No.	Characteristic	Number(N=135)	(%)
1	<b>Age (years)</b>		
	≤ 40	49	36,3
	> 40	86	63,7
2	<b>Gender</b>		
	Male	43	31,9
	Female	92	68,1
3	<b>Marital status</b>		
	Single	12	8,9
	Was married	2	1,5
	Married	121	89,6
4	<b>Education</b>		
	Bachelor or Higher	44	32,6
	Academy (3 years)	62	45,9
	High school	29	21,5
5	<b>Working area</b>		
	Emergency Department	21	15,6
	Outpatient clinic	40	29,6
	Inpatient covid-19	20	14,8
	Inpatient non covid-19	54	40
6	<b>Profession</b>		
	Doctor, dentist	23	17
	Nurse, midwife	71	52,6
	Others	41	30,4
7	<b>Hour work/week</b>		
	≤ 40 hours	43	31,9
	> 40 hours	92	68,1
8	<b>Work period</b>		
	≤ 10 years	32	23,7
	11-20 years	44	32,6
	> 20 years	59	43,7
9	<b>Work patterns</b>		
	Non shift	41	30,4
	2 shifts	82	60,7
	3 shifts	12	8,9
10	<b>Additional task</b>		
	No	102	75,6
	Yes	33	24,2

Additional tasks are tasks that must be carried out by health workers in addition to the main duties according to their profession according to the decree of the hospital director, for example, an inpatient room nurse besides carrying out her main duties as a nurse also has duties as a hospital disaster management team, ect.

### Prevalence of burnout

The prevalence of health worker that was identified having burnout is shown in table 2 below:

**Table 2.** Prevalence of Burnout

Burnout	Number	%
No	82	60,7
Yes	53	<b>39,3</b>
Total	135	100,0

Among the fifty-three respondents who experienced burnout, 4 respondents (7,5%) were emotionally exhausted, 39 respondents (73,6%) had low self-esteem, and 10 respondents (18,7%) had more than 1 dimension of burnout (mixed).

### Related Factors to Burnout

Related factors to burnout were identified by analyzing the association between individual characteristics and occupational characteristics (table 1) with burnout (table 2). After analysis using Chi-square test no significant association was found between burnout and age, gender or marital status ( $p > 0,05$ ). However, education was found to be significantly associated with burnout ( $p = 0,000$ ); OR; 4.92; (95% CI: 2.02 – 11.94). Occupational factors that were not related to burnout ( $p > 0,05$ ) was working area, hour work/week, work period, and additional task. But, profession was significantly related to burnout ( $p = 0,001$ ; OR 4.24 (95% C.I: 1.84 – 9.82), and also work pattern ( $p = 0,011$ ); with OR 3,139; (95% C.I: 1,35-7,27).

**Table 3.** Related Factors to Burnout

Variable	Burnout		Total	p	OR 95% CI
	No	Yes			
Education	High school	9	20	0,000	4,92 (2,02-11,94)
	Academy* ≥ Bachelor*	73	33		
Profession	Doctor, Dentist*	11	21	0,001	4,24 (1,84-9,82)
	Nurse, Midwife*	71	32		
	Others	32	103		
Work patterns	Non shift	32	9	0,011	3.13(1.35-7.27)
	2 shifts*	50	44		
	3 shifts*	94	94		

\* two categories combined into one

**Table 4.** Multivariate analysis

Variable	P	Ora	95% CI
Higher Education	0,002	4,10	1,66-10,17
Shift Work	0,045	2,44	1,02-5,86

## DISCUSSION

This study was conducted to discover the prevalence of burnout in a COVID 19 private referral hospital in Jakarta, about one year after the peak of the pandemic. It is found that the prevalence of burnout was 39.3%. This percentage is smaller than the research conducted by Soemarmo D.S., in 2020 which found burnout in 80.3% of health workers.<sup>3</sup> This may be partly due to the difference of the time when the research was conducted. This research was conducted approximately 18 months after the Covid-19 pandemic hit Indonesia, while the study of Soemarmo D.S., was conducted at the peak of the pandemic. The first wave of increased Covid- 19 cases occurred between December 2020 and March 2021, with a peak incidence of 13,000 Covid-19 cases per day around mid-January 2021. The second wave of more severe increased in Covid-19 cases began in June 2021 until the end of August 2021, with a peak in mid-July 2021 and a total of 54,000 cases per day (JHU CSSE Covid-19 Data). The death rate for healthworkers due to Covid-19 reached 2032 cases by the end of October 2021 and was the highest number in Asia. The data collection in this study was carried out at the time when the number of Covid-19 cases had decreased significantly. Furthermore, the previous study by Soemarmo was conducted at the National Referral Hospital,

where the patient load was significantly higher. Hence, for the circumstances when the research was conducted, the prevalence of burnout of 39.3% could still be considered as high. This may be because recovery of burnout is slow, or that burnout still occurs even after the peak of the pandemic was over, which could not be determined with a cross sectional study. Another study, done by Khasne et.al. in 2020, found that pandemic related burnout was 52.8% among 2026 health care workers in India.<sup>2</sup>

The domain that mostly caused burnout in this study was low-self esteem (73.6%), while 18.7% burnout was caused by more than one domain and only 7.5% were emotionally exhausted. Low-self esteem among health workers, can be because during the pandemic health care workers often could not help patients to survive, fear of bringing Covid19- infection home and other factors, which were also mentioned by the Indian study.

Multivariate analysis, showed that Higher Education and Shiftwork was significantly related to burnout. Those with higher education are more at risk of feeling burnout, maybe because they have more responsibility in providing care and shiftwork has been known to cause more stress.

## CONCLUSION and RECOMMENDATION

The prevalence of burnout for health workers at Pondok Kopi Jakarta Islamic Hospital after more than one year during the Covid-19 pandemic was 39.3%. Factors that are significantly related to burnout in these health workers are the level of education and shift work patterns. It is recommended that those who experience burnout get further help and monitoring, to prevent psychological problems. Further research is needed on burnout, especially how to manage and prevent it from occurring. Routine detection of burnout is also important to prevent further mental health problems and also errors in providing health care services.

## REFERENCES

1. Holly Blake.et.al. Mitigating the Psychological Impact of COVID-19 on Healthcare Workers: A Digital Learning Package. International Journal of Environmental Research and Public Health. Available at: <https://pubmed.ncbi.nlm.nih.gov/32357424/>
2. Geetha R. Menon, et.al. Psychological distress and burnout among healthcare worker during COVID-19 pandemic in India, A cross-sectional study. Research Article. Available at: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0264956>
3. Soemarko D.S., et.al. Prevalence and Determinant Factors of Health Workers Burnout during COVID-19 Pandemic in Indonesia. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6780563/>
4. Dike Drummond, MD. Physician Burnout. Burnout Basics-Symptoms, Effects, Prevalence and the Five Main Causes. Available at: [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6139917/pdf/ms113\\_p0252.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6139917/pdf/ms113_p0252.pdf)
5. Christina Maslach., Michael P. Leiter. Understanding the burnout experience: recent research and its implications for psychiatry. (World Psychiatry 2016;15: 103–111). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4911781/>
6. Cíntia de Lima Garcia, et.al. Influence of Burnout on Patient Safety: Systematic Review and Meta-Analysis. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6780563/>
7. Stefan De Hert. Burnout in Healthcare Workers: Prevalence, Impact and Preventative Strategies. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7604257/>
8. Jaroslava Raudenska. Occupational burnout syndrome and posttraumatic stress among healthcare professionals during the novel coronavirus disease 2019 (COVID-19) pandemic. Available at: <https://pubmed.ncbi.nlm.nih.gov/33004166/>