narra j

Short Communication

Mental health analysis and resilience psychological factors during pandemic among port health officers: A study in Sabang, Indonesia

Maisarah Friza[1,2*], Syahrul Syahrul[3,4] and Marty Mawarpury[5]

[1]Master Program in Disaster Science, Universitas Syiah Kuala, Banda Aceh, Indonesia; [2]Technical Implementation Unit Sabang, Ministry of Health, Sabang, Indonesia; [3]Department of Neurology, Faculty of Medicine, Universitas Syiah Kuala, Banda Aceh, Indonesia; [4]Department of Neurology, Dr. Zainoel Abidin Hospital, Banda Aceh, Indonesia; [5]Department of Psychology, Faculty of Medicine, Universitas Syiah Kuala, Banda Aceh, Indonesia

*Corresponding author: maisarahfriza27@gmail.com

Abstract

The coronavirus disease 2019 (COVID-19) pandemic has had a negative impact on the mental health of health workers worldwide. Many studies examined the mental health of the frontline health workers in hospitals, but similar research on health workers at the port entries has yet to be found. The aim of this study was to determine the mental health issue and its associated factors and to determine the psychological resilience factors of port health workers in Sabang, Indonesia during the COVID-19 pandemic. A retrospective mixed-method study was conducted among 38 port health officers. Total sampling included those working from January 2020 to March 2023. The information on age, gender, qualification, working time and working place of the respondents were collected and the mental health was assessed using the Depression Anxiety Stress Scale (DASS-21). The correlation and association between the socio-demographic data and mental health were tested with Spearman and chi-squared tests, respectively. The qualitative study on psychological resilience factors were performed with interviews and analyzed with NVivo. This study indicated that 47.4% of port health officers experienced depression, 63.1% anxiety and 50.0% stress. Age and working time significantly affected the mental health. Age correlated positively and significantly with anxiety (p<0.0001) and stress (p<0.0001), while working time significantly affected the anxiety (p=0.003). The psychological resilience factors identified were spirituality, positive emotions, official support, and personal well-being that helped the workers taking away learn lessons. In conclusion, mental health issues are high among frontline workers during the pandemic highlighting the importance of the prevention measures to ensure the work performance among employees.

Keywords: Pandemic, COVID-19 impact, mental health, resilience psychological factors, port health officer

https://narraj.org/

Introduction

The coronavirus disease 2019 (COVID-19) pandemic caused mental health consequences for people, including health workers. Fatigue, psychological disorders, stigmatization, insomnia, depression, stress and anxiety were often experienced by frontline health workers during a pandemic [1]. Studies in China [2], Turkey [3], Spain [4], Vietnam [5], India [6], Nepal [7] and Indonesia [8] found that the frontlines health workers were vulnerable groups to the mental

Received: July 3, 2023 - Accepted: January 16, 2024 - Published online: January 16, 2024

health problems due to the COVID-19 pandemic [9]. The frontlines health workers in Wuhan, China experienced moderate to severe symptoms of stress and depression during the pandemic [9] with higher mental health problems (52.6%) compared to the non-frontline (34%) [2]. A study in Turkey found that the 64.7% online health workers experienced symptoms of depression, 51.6% anxiety and 41.2% stress. Additional working hours, confirmed cases increase, lack of support, limited logistic and inadequate competences caused psychological pressure on frontline health workers [3]. Frontline health workers in developing and underdeveloped countries experience more complex mental health disorders compared to the developed countries [10]. For instance, 57.6% of the workers experienced symptoms of anxiety, 52.1% depression and 47.9% insomnia in Pontianak, Indonesia [8].

Although there were many studies examining the mental health of frontline health workers in hospitals, but similar research on health workers at the countries and islands entrance has yet to be found. Port health officers work 24 hours monitor people entering from abroad and within the country to prevent disease infection at entry points. Sabang port health officers were the suitable sample to be studied, considering that Sabang has three entry points, namely Balohan Port that serves local entries, Teluk International Port that serves international entries, and Maimun Saleh Airport that serves both. In total, there were 221,813 people who were examined to quarantine standards in 2020 [11], 565,732 people in 2021 [12] and 781,385 people in 2022 [13] As many as 57, 3, and 90 ships were arrived from abroad in 2020, 2021, and 2022, respectively, while 1,611, 2,299, and 2,406 domestic ships were arrived [11-13].

The great responsibility to prevent disease at entrance and stringent supervision according to quarantine standards were certainly a hard work and has an impact on mental health and psychological resilience of the workers. During the pandemic, the normal life for much of the population of the world had been suspended [14], including port health officers. However, people differ widely in how they respond to challenges and difficulties. The ability to withstand setbacks, adapt positively, and bounce back from adversity is described as resilience [15]. Psychological resilience is described as the capacity of an individual to maintain, restore, or improve mental health as well as being to adapt to life challenges. It can be strengthen by optimizing one's potential, the social structure of the community and social support [16]. The aim of this study was to analyze the mental health of port health officers and its determinants and to determine the psychological resilience factors during the COVID-19 pandemic.

Methods

Study design and setting

A retrospective mixed method study was conducted among 38 port health officers of Sabang, Indonesia who were working from January 2020 to March 2023. The quantitative method was employed to measure the mental health and the correlation between the sociodemographic data and the mental health. The qualitative study was performed to determine psychological resilience factors.

Participants

All Sabang ports health officers were recruited. The inclusion criteria were who concerned voluntarily become a research sample and has been working between January 2020 to March 2023. The exclusion criteria were the officers whom were not working more than one month (paid and maternal leave) during the observation period. As many as 38 of 46 officers met these criteria. The information on age, gender, qualification, working time and working place of the respondents were collected as potential determinants.

Mental health analysis

The mental health of the officers was assessed using a Depression Anxiety Stress Scale (DASS-21). The DASS-21 is a self-report tool containing 21 items that assess three constructs, i.e., depression, anxiety and stress [17] with each subscale has seven statements. In the items consisting of statements referring to the previous week, respondents were asked to read these statements and rate the frequency of the negative emotions. Ratings were made on a series of 4-

point Likert scale from 0 (did not apply to me at all/never) to 3 (applied to me very much/always). Higher scores indicated more severe emotional distress. The validity and reliability of DASS21 were performed by Universitas Pattimura, Indonesia. The correlation and association between sociodemographic data and mental health were analyzed.

Psychological resilience factors

Interviews with open questions were conducted to recall the work experience and pressure from the beginning of the COVID-19 pandemic to the present. The interview began by asking about the working experience of the respondents during the pandemic. After the respondents recalled their experiences, they were asked several more detailed questions: (1) when was the most difficult time to work during a pandemic; (2) why did the respondents get psychological pressure at work during the pandemic; (3) how did the respondents solve the psychological pressure; (4) how was the office support; (5) what was the recovering factor to solve psychological pressure during the pandemic; and (6) were there any lessons learned from the pandemic.

Statistical analysis

In addition to descriptive statistics, we conducted multiple linear regression analyses to identify data normality. The Spearman test and Chi-squared test were used to determine the correlation and the association between potential determinants and mental health as appropriate. The result was considered statistically significant at $p<0.05$. Quantitative data were analyzed using SPSS version 22 (IBM, New York, US). Moreover, the interview data were analyzed using NVivo software by importing the data, typing and creating the nodes, coding the data, making sense of themes and interpretating data descriptively.

Results

Characteristics of participants

The total of 38 people participated in this study (**Table 1**). More than half of the participants were 35–44 years old (52.6%), while the least were aged 45–54 years old (7.9%). Number of the male officers dominated with 23 respondents (60.5%). All participants had worked less than 20 years (97.4%), but one participant have worked more than 30 years. There was no substantial different in proportion between technical (20 respondents; 52.6%) and non-technical qualification (18 respondents; 47.4%). Similarly, 22 respondents (57.9%) worked at the main office and 16 respondents (42.1%) worked at the port gates.

Table 1. Characteristics of participants (n=38)

Respondent characteristics		Frequency	Percentage
Age	25–34 years old	15	39.5
	35–44 years old	20	52.6
	45–54 years old	3	7.9
Gender	Male	23	60.5
	Female	15	39.5
Working time	0–10 years	21	55.3
	11–20 years	16	42.1
	21–30 years	0	0.0
	31–40 years	1	2.6
Qualification	Technical	20	52.6
	Non-technical	18	47.4
Working place	Main office	22	57.9
	Port gate	16	42.1

Mental health status

In general, more than 47% of the respondents experienced mental distress—47.4% depression, 63.1% anxiety, and 50.0% stress (**Table 2**). Moreover, of all respondents, less than 8% experienced severe and extremely severe depression (2.6% and 5.3%, respectively), while 39.5% experienced less severe depression (mild and moderate) and 52.6% were normal. Within the anxiety subscale, 28.9% of the sample were considered to have mild anxiety, 15.8% moderate,

10.5% severe and 7.9% extremely severe. Within the stress subscale, 15.8% of the sample was reported with mild stress symptoms, 18.4% moderate, 13.2% severe and 2.6% extremely severe.

Table 2. Summary of mental health of Sabang ports health officers

Variables	Depression, anxiety and stress scale					Total n (%)
	Normal n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely severe n (%)	
Depression	20 (52.6)	7 (18.4)	8 (21.1)	1 (2.6)	2 (5.3)	38 (100)
Anxiety	14 (36.9)	11 (28.9)	6 (15.8)	4 (10.5)	3 (7.9)	38 (100)
Stress	19 (50.0)	6 (15.8)	7 (18.4)	5 (13.2)	1 (2.6)	38 (100)

Factors associated with mental health (depression, anxiety and stress)

The depression, anxiety and stress were encountered differently by port health officers depending on their sociodemographic backgrounds (**Table 3**). Depression was experienced the most by the officers who were 25–34 years old (44.44%), worked 0–10 years (55.55%), male (55.56%) and had technical background (61.11%). Regarding the anxiety, it was experienced the most by 35–44 years old officers (54.17%), 11–20 years working time (50.00%), male (58.33%), had technical background (62.50%), and worked at the main office (54.17%) (**Table 3**).

Table 2. Mental health and its correlation with sociodemographic characteristics

Socio demographic characteristics	Normal n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely severe n (%)	Total n (%)	*p*-value
Depression subscale							
Age							0.024*[a]
25–34 years	7 (18.4)	4 (10.5)	4 (10.5)	0 (0.0)	0 (0.0)	15 (39.5)	0.364[b]
35–44 years	13 (34.2)	2 (5.3)	4 (10.5)	1 (2.6)	0 (0.0)	20 (52.6)	
45–54 years	0 (0.0)	1 (2.6)	0 (0.0)	0 (0.0)	2 (5.3)	3 (7.9)	
Working time							0.074 [a]
0–10 years	11 (28.9)	3 (7.9)	6 (15.8)	1 (2.6)	0 (0.0)	21 (55.3)	0.293[b]
11–20 years	9 (23.7)	4 (10.5)	2 (5.3)	0 (0.0)	1 (2.6)	16 (42.1)	
21–30 years	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
31–40 years	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.6)	1 (2.6)	
Gender [b]							0.415[b]
Male	13 (34.2)	4 (10.5)	3 (7.9)	1 (2.6)	2 (5.3)	23 (60.5)	
Female	7 (18.4)	3 (7.9)	5 (13.2)	0 (0.0)	0 (0.0)	15 (39.5)	
Qualification [b]							0.355[b]
Technical	9 (23.7)	5 (13.2)	4 (10.5)	0 (0.0)	2 (5.3)	20 (52.6)	
No technical	11 (28.9)	2 (5.3)	4 (10.5)	1 (2.6)	0 (0.0)	18 (47.4)	
Working place [b]							0.727[b]
Main office	13 (34.2)	3 (7.9)	4 (10.5)	1 (2.6)	1 (2.6)	22 (57.9)	
Port gate	7 (18.4)	4 (10.5)	4 (10.5)	0 (0.0)	1 (2.6)	16 (42.1)	
Anxiety subscale							
Age							<0.001**[a]
25–34 years	7 (18.4)	6 (15.8)	1 (2.6)	1 (2.6)	0 (0.0)	15 (39.5)	0.575[b]
35–44 years	7 (18.4)	5 (13.2)	3 (7.9)	3 (7.9)	2 (5.3)	20 (52.6)	
45–54 years	0 (0.0)	0 (0.0)	2 (5.3)	0 (0.0)	1 (2.6)	3 (7.9)	
Working time							0.003*[a]
0–10 years	10 (26.3)	7 (18.4)	3 (7.9)	1 (2.6)	0 (0.0)	21 (55.3)	0.473[b]
11–20 years	4 (10.5)	4 (10.5)	3 (7.9)	3 (7.9)	2 (5.3)	16 (42.1)	
21–30 years	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
31–40 years	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.6)	1 (2.6)	
Gender							0.499[b]
Male	9 (23.7)	5 (13.2)	4 (10.5)	2 (5.3)	3 (7.9)	23 (60.6)	
Female	5 (13.2)	6 (15.8)	2 (5.3)	2 (5.3)	0 (0.0)	15 (39.4)	
Qualification							0.535[b]
Technical	5 (13.2)	6 (15.8)	4 (10.5)	3 (7.9)	2 (5.3)	20 (52.6)	
No technical	9 (23.7)	5 (13.2)	2 (5.3)	1 (2.6)	1 (2.6)	18 (47.4)	
Working place							0.535[b]
Main office	9 (23.7)	6 (15.8)	3 (7.9)	2 (5.3)	2 (5.3)	22 (57.9)	
Port gate	5 (13.2)	5 (13.2)	3 (7.9)	2 (5.3)	1 (2.6)	16 (42.1)	
Stress subscale							
Age							<0.001**[a]
25–34 years	8 (21.1)	4 (10.5)	2 (5.3)	1 (2.6)	0 (0.0)	15 (39.5)	0.544
35–44 years	11 (28.9)	2 (5.3)	4 (10.5)	3 (7.9)	0 (0.0)	20 (52.6)	

Socio demographic characteristics	Normal n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely severe n (%)	Total n (%)	*p*-value
45–54 years	0 (0.0)	0 (0.0)	1 (2.6)	1 (2.6)	1 (2.6)	3 (7.9)	
Working time							0.007*[a]
0–10 years	12 (31.6)	4 (10.5)	4 (10.5)	1 (2.6)	0 (0.0)	21 (55.3)	0.434[b]
11–20 years	7 (18.4)	2 (5.3)	3 (7.9)	4 (10.5)	0 (0.0)	16 (42.1)	
21–30 years	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
31–40 years	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.6)	1 (2.6)	
Gender							0.009*[b]
Male	12 (31.6)	0 (0.0)	5 (13.2)	5 (13.2)	1 (2.6)	23 (60.6)	
Female	7 (18.4)	6 (15.8)	2 (5.3)	0 (0.0)	0 (0.0)	15 (39.4)	
Qualification							0.862[b]
Technical	9 (23.7)	3 (7.9)	4 (10.5)	3 (7.9)	1 (2.6)	20 (52.6)	
No technical	10 (26.3)	3 (7.9)	3 (7.9)	2 (5.3)	0 (0.0)	18 (47.4)	
Working place							0.926[b]
Main office	11 (28.9)	3 (7.9)	4 (10.5)	3 (7.9)	1 (2.6)	22 (57.9)	
Port gate	8 (21.1)	3 (7.9)	3 (7.9)	2 (5.3)	0 (0.0)	16 (42.1)	

[a] Analyzed using Spearman test
[b] Analyzed using Chi-squared test
* Significant at p=0.05
* Significant at p=0.001

Stress experienced mostly by the 35–44 years old officers (47.39%), although all the 45–54 years old officers experienced moderate to extremely severe stress (**Table 3**). Officers who have worked 0–10 years and 11–20 years were equally stressed (47.37% each). Moreover, the officers that were male (53.89%), had technical background (57.89%), and worked at the main office (57.89%) also experienced stress the most (**Table 3**).

The correlation analyses using Spearman test resulted in only three aspects that were correlated (**Table 3**), i.e., a significant and adequate correlation between age and anxiety (p<0.001), between age and stress (p<0.0001), and between working time and anxiety (p=0.003). However, there was weak and no significant correlation between age and depression (p=0.024) and between working time and depression (p=0.074), but adequate correlation between working time and stress (p=0.007) (**Table 3**).

The Chi-squared tests revealed that there was no significant correlation between gender and depression (p=0.415), gender and anxiety (p=0.499), gender and stress (p=0.009), qualification and depression (p=0.355), qualification and anxiety (p=0.535), qualification and stress (α=0.862), working place and depression (p=0.727), working place and anxiety (p=0.959) and working place and stress (p=0.926) (**Table 3**).

Psychological resilience factors

The first two years of the pandemic were the most difficult times they experienced. In 2020, there were a large spread of hoax information, the fear of being contaminated, and the lack of understanding of how to handle COVID-19 disasters. The officer infected by COVID-19 caused a lot of delegation of working hours to other health workers in 2021. The psychological resilience factor of Sabang port health officer was based on spirituality in which 27 from 38 respondents (71.05%) agreed with this statement: "*Pray more and believe that Allah will resolve all this pandemic with a beautiful ending. That is the only thing to get peaceful mind in the times like these*".

Positive emotions were shown with 78.94% of respondents (30 of 38 respondents). They were confident that the pandemic could make officers being prepared for another health disaster and they were able to take learned lessons from the pandemic, for instance, being more concerned about health.

Regarding the supports from the environment, all of the officers mentioned that they received adequate logistical support from the Ministry of Health, such as personal protective equipments (PPE), vitamins, supplements and incentives. Less than half respondents (42.10%) complained about the lack of sympathy and empathy among officers in their working environment.

Discussion

The COVID-19 pandemic had a negative impact on the mental health of health workers. The mental health of Sabang port health workers during the pandemic experienced mild to extremely severe stress, anxiety and depression. This study indicated as the workers getting older, their levels of stress and anxiety increased. While the working time affected significantly to the anxiety potential, but gender, working place and qualification background did not influence depression, anxiety and stress scales of the port health officers. The findings of this study aligned with previous studies that highlighted about the potential severe psychiatric repercussions on healthcare professionals during the crisis [1], prevalence of depression, anxiety, and insomnia among healthcare workers [18], depression, anxiety, stress levels of physicians and associated factors in COVID-19 pandemic [19], and psychological impact of the pandemic in frontline workers [4].

The first two years were the most difficult times that the frontline health workers experienced. In 2020, there were large numbers of hoax information [20], the fear of being contaminated [21], and the lack of understanding on how to handle COVID-19 disasters [7]. Previous pandemics also showed similar reactions in health workers, such as the H1N1 influenza pandemic in 2009 [22]. In 2021, the increase in working hours and the high number of confirmed cases of COVID-19 added a heavy workload for the officers. Approximately 35.9% of health workers felt burdened working during the pandemic [7]. Most frontline health workers describe their experience of working during a pandemic as "Working in the Dark" [20]. In 2022, health workers were able to adapt to the new workflows. The officers are familiar to the situation in 2023. Naturally, individuals are able to adapt to the problem they face [23]. They adapt to the changes that caused by stressful events in a flexible way and recovering from negative emotional experiences [24] which is considered as the psychological resilience.

The psychological resilience factors of Sabang port health officers were based on spirituality, positive emotions, official supports, and personal existence. The resilience is constructed on stressor solving and coping by the individuals [23]. Supports, in the form of food supplies, vitamins, personal protective equipment (PPE) and incentives made a meaningful contribution in improving their wellbeing. Life wellbeing is a crucial factor in achieving resilience in frontline health workers [25] which impacted their job performance. There was a positive significant relationship between psychological resilience and job performance [28]. Resilience also builds positive emotions, so they were able to take lessons although they felt a lot of psychological pressure lasted for three years. There are some limitations of this study, i.e., this study did not cover more details data to observe the change of mental distress during the 3-years pandemic and whether the port officers at the international ports had more mental distress than at the domestic ports.

Conclusion

This study suggests that about half of the Sabang port health officers experienced depression, anxiety, and stress. The age and working time affected the mental distress. The psychological resilience factors were based on spirituality, positive emotions, official support and personal wellbeing that helped to take learned lessons and improved work performance. It is worth noting that this study shed light on the mental health and psychological resilience of one of the neglected frontline health workers groups.

Ethics approval

This study was approved by the Sabang Port Health Office. All the officers consented to become study participant.

Competing interests

The authors declared that there is no conflict of interest.

Acknowledgments

We thank the port health officers who voluntarily became a research sample.

Funding

This study received no external funding.

Underlying data

All data underlying the result are available as part of the article and no additional source data required.

How to cite

Friza M, Syahrul S, Mawarpury M. Mental health analysis and resilience psychological factors during pandemic among port health officers: A study in Sabang, Indonesia. Narra J 2024; 4 (1): e212 - http://doi.org/10.52225/narra.v4i1.212.

References

1. Anmella G, Fico G, Roca A, *et al*. Unravelling potential severe psychiatric repercussions on healthcare professionals during the COVID-19 crisis. J Affect Disord 2020; 273:422-424.
2. Cai Q, Feng H, Huang J, *et al*. The mental health of frontline and non-frontline medical workers during the coronavirus disease 2019 (COVID-19) outbreak in China: A case-control study. J Affect Disord 2020; 275:210-215.
3. Elbay RY, Kurtulmuş A, Arpacıoğlu S, *et al*. Depression, anxiety, stress levels of physicians and associated factors in Covid-19 pandemics. Psych Res 2020; 290:113130.
4. Rodríguez-Rey R, Garrido-Hernansaiz H, Bueno-Guerra N. Working in the times of COVID-19: Psychological impact of the pandemic in frontline workers in Spain. Intl J Env Res Pub Health 2020; 17(21):8149.
5. Than HM, Nong VM, Nguyen CT, *et al*. Mental health and health-related quality-of-life outcomes among frontline health workers during the peak of covid-19 outbreak in Vietnam: A cross-sectional study. Risk Management and Healthcare Policy 2020; 13:2927-2936.
6. Dr. Nikhil Chandrakant T, Dr. Sahana S, Dr. Tarun Pratap S, *et al*. Psychological effect of COVID-19 amongst health-care workers in Bhopal, Madhyapradesh. Journal of Advanced Sciences 2022; 1(2):12-18.
7. Upadhyaya DP, Paudel R, Acharya D, *et al*. Frontline healthcare workers' knowledge and perception of COVID-19, and willingness to work during the pandemic in nepal. Healthcare (Switzerland) 2020;8(4).
8. Hanggoro AY, Suwarni L, Selviana, *et al*. Dampak psikologis pandemi COVID-19 pada petugas layanan kesehatan: Studi. Jurnal Kesehatan Masyarakat Indonesia 2020; 15(2):13-18.
9. Ibáñez-Vizoso JE, Alberdi-Páramo í, Díaz-Marsá M. International mental health perspectives on the novel coronavirus SARS-CoV-2 pandemic. Revista de psiquiatria y salud mental 2020;13(2):111.
10. Deng D, A Naslund J. Psychological impact of COVID-19 pandemic on frontline health workers in low- and middle-income countries. HPHR Journal 2021(26).
11. Sabang KKPKI. 2020. Laporan Kinerja Instansi Pemerintah (LAKIP) Tahun Anggaran 2020.
12. Sabang KKPKI. 2021. Laporan Kinerja Instansi Pemerintah (LAKIP) Tahun Anggaran 2021.
13. Sabang KKPKI. 2022. Laporan Kinerja Instansi Pemerintah (LAKIP) Tahun Anggaran 2022.
14. Torales J, O'Higgins M, Castaldelli-Maia JM, *et al*. The outbreak of COVID-19 coronavirus and its impact on global mental health. Intl J Soc Psych 2020; 66(4):317-320.
15. Bonanno GA, Galea S, Bucciarelli A, *et al*. Psychological resilience after disaster: New York City in the aftermath of the September 11th terrorist attack. Psych Sci 2006; 17(3):181-186.
16. Marlow EC, Chmutina K, Dainty A. Interpreting sustainability and resilience in the built environment. International Journal of Disaster Resilience in the Built Environment 2022.
17. Pezirkianidis C, Karakasidou E, Lakioti A, *et al*. Psychometric properties of the depression, anxiety, stress scales-21 (DASS-21) in a Greek sample. Psych 2018; 9(15):2933-2950.
18. Pappa S, Ntella V, Giannakas T, *et al*. Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. Brain Behav Immun 2020; 88:901-907.

19. Mukhtar S. Psychological health during the coronavirus disease 2019 pandemic outbreak. Intl J Soc Psych 2020; 66(5):512-516.
20. Pooja SD, Nandonik AJ, Ahmed T, *et al*. "Working in the dark": Experiences of frontline health workers in Bangladesh during COVID-19 Pandemic. Journal of Multidisciplinary Healthcare 2022;15:869-881.
21. Lathabhavan R, Sudevan S. The impacts of psychological distress on life satisfaction and wellbeing of the Indian general population during the first and second waves of COVID-19: A comparative study. Intl J Mental Health Addict 2023;21(4):2526-2537.
22. Corley A, Hammond NE, Fraser JF. The experiences of health care workers employed in an Australian intensive care unit during the H1N1 Influenza pandemic of 2009: A phenomenological study. International Journal of Nursing Studies 2010;47(5):577-585.
23. Ahmed AE, Ucbasaran D, Cacciotti G, *et al*. Integrating psychological resilience, stress, and coping in entrepreneurship: A critical review and research agenda. Entrep Theory Pract 2022;46(3):497-538.
24. Mazza C, Ricci E, Biondi S, *et al*. A nationwide survey of psychological distress among Italian people during the COVID-19 pandemic: Immediate psychological responses and associated factors. Intl J Env Res Pub Health 2020;17(9):3165.
25. Lai J, Ma S, Wang Y, *et al*. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA Network Open 2020;3(3):e203976-e203976.