

# Stress among Healthcare Workers during COVID19 Pandemic: Crucial Elements for Hospital Management

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## ABSTRACT

*The COVID-19 outbreak has impacted global mental health and wellbeing; those severely affected are the healthcare workers (HCWs). Despite the overwhelming consequences, there is sparse knowledge on subjective opinions of HCWs on factors contributing to their stress. This study aimed to explore the opinions of HCWs on factors contributing to their psychological distress. We analysed thematically secondary data of the opinions and suggestions of HCWs, which were retrieved from the*

*computerized mental health monitoring system and online Psychosocial First Aid of the main admitting hospital for COVID-19 in Malaysia and its related healthcare facilities during the second wave of the pandemic. Data of 1290 HCWs indicated the main concerning themes were i) work safety and hazard; ii) organizational culture and behaviour; iii) appreciation and reward and, iv) their concern on public issues. These findings may inform hospital authorities to provide more effective service management to prevent psychological distress and address the relevant contributing factors to ensure the HCWs have optimum mental health during current and future disasters.*

**Keywords:** *Healthcare workers; Psychological distress; Disaster; Organizational culture; Hospital management*

## **INTRODUCTION**

Globally, the coronavirus pandemic has resulted in unprecedented threats to mental health. Healthcare workers (HCWs) who provide their services to people with COVID-19 in hospitals, nursing homes, and other settings are at high risk of exposure to the virus. Experts from the area with the highest prevalence of COVID-19 believe that more than half a million HCWs may have been infected and 2,500 of them have succumbed to the fatal infection (Pan American Health Organization, 2020). Furthermore, according to the World Health Organization (WHO)(2020), one in four HCWs may have depression and anxiety. Given the crucial role of HCWs to provide the treatment and management for the patients, their well-being and mental health should be maintained at the best level. Hence, it is critical that the hospital authorities ensure effective strategies to prevent psychological distress among HCWs, so that they have optimum mental health during current and future disasters.

## **LITERATURE REVIEW**

Several studies have reviewed and investigated the mental health impact of COVID-19 infection on HCWs (Adams & Walls, 2020; de Pablo et al., 2020; Greenberg, 2020; Lai et al., 2020; Spoorthy, Pratapa, & Mahant, 2020; Wong, Pacella-LaBarbara, Ray, Ranney, & Chang, 2020). The

possible factors associated with stress, anxiety, depression, and insomnia among HCWs include gender, profession, age, place of work, and department of work (Razali, Abdullah, Rahman, Azhar, & Yaacob, 2021; Spoorthy, 2020).

The HCWs experience acute challenges having to make impossible decisions and work under immense pressure. The HCWs have to make conflicting decisions under duress, which questions their ethical stand, while dealing with an overwhelming workload, providing care within constrained resources, and having an inadequate at best, and non-existent at worst, support system (Lai et al., 2020). The psychological impact of the COVID-19 pandemic on the HCWs is made worse with reduced accessibility to formal psychological support (Tan et al., 2020).

Moreover, the COVID-19 pandemic crisis has also placed enormous pressure on individual hospitals and hospital systems (McHugh & Cross, 2021). Although these organizations would be unable to predict precise demands and needs required to respond to such a global crisis, there may be affirmative organizational characteristics of hospital management that could prepare them to take action effectively. These indicators include financial strength, systems structure, leadership strength, and also market competitiveness (McHugh & Cross, 2021).

Financial strength and performances such as operating cost, efficiency, negotiated prices, and profitability are key indicators of management resources for crisis response (Büchner, Hinz, & Schreyögg, 2016; McHugh & Cross, 2021). Hospital performance changes upon a health system financial entry, whilst observing differences between hospital technical, cost efficiency, and hospital profitability, respectively (Büchner et al., 2016). Hospital system structure, on the other hand, affects how decisions are made and the extent to which resources are deployed (Ghasemi, Nejad, & Bagzibagli, 2017; McHugh & Cross, 2021). The extent to which a hospital system structure is developed and established significantly affects resource mobilization during any crisis response (Holmgren & Ford, 2018). Having a good system structure would potentially enable hospitals to leverage these internal capabilities in facilitating the perilous crisis response effectively. Moreover, by having a systematic and well-organized documentation procedure, hospitals could

and would be successfully managed by healthcare administrators and personnel alike (Ghasemi et al., 2017).

Leadership skills also facilitate effective management of hospitals in handling crises, such as the COVID-19 global pandemic (McHugh & Cross, 2021). It is considered an inherent part of the medicinal practice (Sonnino, 2016), in particular, when interacting with patients and their respective families. Gabel (2014), on the other hand, examined how physicians generally assume leadership roles, either formally or informally, within the duration of their careers. He found that there is an important need to expand the training scope on leadership in an attempt to include both categories of leaders. With this leadership strength in place amongst hospital key management personnel, HCWs would be able to be more committed, with increased job satisfaction albeit under pressure, and thus leading towards HCWs' better provision of services to patients in need amidst any acute health crisis faced (Azeem & Akhtar, 2014).

The presence of a healthcare organization's work culture is another potential indicator in examining the effectiveness of HCWs' overall work performances, commitment, and productivity amidst the COVID-19 pandemic crisis. Furthermore, organizational culture is often considered a prerequisite of any teamwork in an organization (Körner, Wirtz, Bengel, & Göritz, 2015). It is a set of shared values, beliefs, or perceptions held by employees within an organization and can also strengthen an organization as a unified one (Robbins, Coulter, & DeCenzo, 2020). An organization with a strong culture assists employees to accomplish their goals, tasks, and be satisfied in their jobs (André & Sjøvold, 2017).

Many hospitals have offered bonuses and additional time off for HCWs on the front lines of the crisis (Gooch, 2020). These benefits are equally important not only for organizational commitment, but also to ensure the well-being of the staff involved. The post-crisis mental health well-being of frontline HCWs is critical to the pandemic response (Spoorthy et al., 2020). Besides, work-life balance and job satisfaction also have an influence on healthcare employees' organizational commitment (Azeem & Akhtar, 2014). Hence, a healthcare organisational culture is essentially demonstrating a symbol for certain flexible and lesser discernible aspects within the health service organisations and how these become evident in the forms of care (Mannion & Davies, 2018).

Even though there are overwhelming mental health consequences as shared by global experiences, current studies on the impact of the COVID-19 pandemic on the mental health of HCWs have yet to describe in-depth the personal experience of the HCWs. Furthermore, there is sparse information and knowledge on the mental health of HCWs in Malaysia to inform appropriate intervention for local authorities. Most of the current information gathered, thus far, has been from the experiences of others elsewhere (Adams & Walls, 2020; de Pablo et al., 2020; Greenberg, 2020; Lai et al., 2020; Spoorthy et al., 2020; Wong et al., 2020), with different socio-demographic and cultural backgrounds as compared to Malaysians. Opinions and perspectives of these HCWs, who have direct and indirect contact with COVID-19, are invaluable for the current, as well as for future crisis management. Hence, this study aimed to explore the subjective personal opinions and suggestions of HCWs on factors contributing to their stress and matters related to jobs while working in hospitals managing COVID-19 in this country.

## **METHODOLOGY**

### **Study Setting**

The study was conducted in Malaysia, where several initiatives have been implemented to ensure the country has enough capacity to cater to the potential exponential increase in the number of cases. These include i) the designation of dedicated COVID-19 admitting hospitals, ii) converting public buildings to instant temporary hospitals, iii) relocating tertiary services to district hospitals, iv) the collaborative efforts between public and private hospitals, v) designation of hotels, hostels, and public buildings as quarantine areas, and vi) the recruitment of volunteers (such as pensioners and private HCWs) and the deployment of HCWs to COVID-19 screening and treatment centres. The existing services in the admitting hospitals had to be halted, and patients were diverted to nearby non-admitting hospitals [Crisis Preparedness and Response Centre (CPRC), 2020]. Apart from hospital services, private laboratories have also collaborated with public laboratories to boost lab testing time for COVID-19 detection.

Following the WHO's recommendation, as part of the national initiatives to address the mental health of the public and the HCWs during the pandemic, the Ministry of Health, Malaysia has prepared Annex 33: Mental Health and Psychosocial Support (MHPSS) in COVID-19 of the Guideline for the Management of COVID-19 in Malaysia No.5/2020 (Amendment 25 March 2020). Parts of the action plan of MHPSS during disasters (including during this COVID-19 pandemic) is to provide Psychosocial First Aid (PFA), mental health surveillance, monitoring and intervention for HCWs in the hospital (Ministry of Health, MOH, 2020).

## **Study Design**

This is a secondary analysis of the mental health surveillance database, a component of the PFA for the HCWs during the COVID-19 pandemic for the Northern Selangor Hospitals, (the main admitting COVID-19 hospital and two other district hospitals). The qualitative section of the PFA allows the HCWs to share their subjective concerns, opinions and suggestions on their condition, as well as other matters related to jobs and hospital management during the COVID-19 pandemic.

## **Data Source**

As part of the MHPSS, the PFA of NHS was assisted by the Computer-Assisted Self-Interview (CASI). The CASI was developed to minimise the contact of the mental health therapists (including counsellors, psychologists, doctors and psychiatrists) with the other HCWs who may or may not have been exposed to COVID-19, and at the same time, to monitor their mental health status. The CASI database is available in four important, namely, Malay, English, Tamil, and Mandarin. Data had been collected daily since the 5<sup>th</sup> of March 2020 during the COVID-19 outbreak. It allows repeated input of data from HCWs at any time.

## **Sample and Selection Criteria**

The selection criteria include input data in the Malay language, English, Tamil, and Mandarin, as well as data of the HCWs aged 18 and above. All data were retrieved within 1 month from 5<sup>th</sup> of March 2020 to 6<sup>th</sup> of April 2020; during the peak of the second wave of COVID-19 infection in Malaysia.

## Data Collection

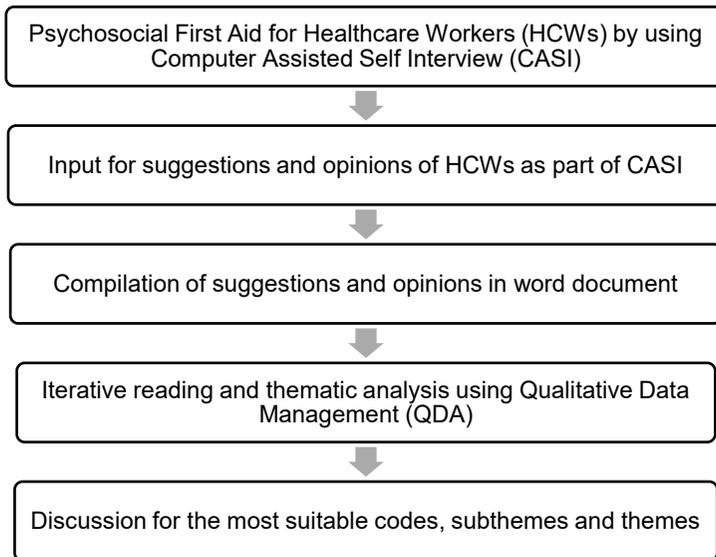
Data gathered from the CASI database comprised quantitative and qualitative data. The quantitative data on sociodemographic information (gender, age, ethnic, and service tier) and job-related factors (including service setting, employer status, and the status of exposure to COVID-19) and input on possible psychological distress measured by the Depression, Anxiety, Stress – 21 items (DASS-21) have been published elsewhere (Razali et al., 2021). In this current study, we analysed the qualitative data of personal concerns, opinions, and suggestions from the HCWs. The questions provided for the HCWs were as follows:

*We really appreciate it if you are willing to make any comments, suggestions, or complaints so that we can improve on the weaknesses and strive to serve you better in the future.*

*What are your main concerns about this epidemic? What is your main concern regarding this outbreak?*

*How can hospital management help you?*

**Figure 1**  
*Flow Chart of the Study Procedure*



The CASI was distributed to all HCWs (namely, MOH medical staff) and other staff working with agencies affiliated with the hospitals, such as technicians, food caterers, cleaners, and others in the NHS. Refer to Figure 1 for further details of data collection and data analysis.

## **Data Analysis**

Thematic analysis was used to analyse the qualitative data. Data retrieved from CASI including the written opinions and suggestions of the HCWs were compiled in a word document. The Qualitative Data Analysis (QDA) Miner software was used to assist in the thematic analyses. The analyses involved the researchers iteratively reading the data and closely examining the data to identify common themes, namely, topics, ideas, and patterns of meaning that came up repeatedly. The six-step process includes the iterative reading of the data to ensure that researchers were familiar with the data, followed by the processes involving coding, generating subthemes, reviewing themes, defining, and naming themes.

## **Ethical Consideration**

This study was approved by the Medical Research Ethics Committee (MREC), Ministry of Health; Approval No: KKM/NIHSEC/P20-1065(6) and National Research Registration No: NMRR-20-882-54820(IIR).

## **RESULTS**

Refer to Table 1 for a detailed background of the participants. A total of 1865 inputs by 1290 participants were retrieved from the CASI within the study duration. The subjective input was in the form of written sentences, which ranges from one word to a paragraph of opinions or suggestions.

## **The Themes**

There were four main themes that emerged from the thematic analysis of the concerns, opinions, and suggestions of the HCWs. Refer to

Table 2 for the summary of the themes, subthemes, and percentages of codes from the thematic analysis.

**Table 1**  
*Background of the Participants*

<b>Variables</b>		<b>n</b>	<b>Percentage (%)</b>
<b>Gender</b>	Male	360	27.9
	Female	930	72.1
<b>Ethnic</b>	Malay	1047	81.2
	India	112	8.7
	Chinese	83	6.4
	Others	48	3.7
<b>Age</b>	<21	2	.2
	21-30	467	36.2
	31-40	559	43.3
	41-50	185	14.3
	51-60	77	6.0
<b>Job Tier</b>	Premier	9	.7
	Managerial and Professional (Tier 41-56)	346	26.8
	Support 1 (Tier 29-40)	534	41.4
	Support (Tier 28 and below)	286	22.2
	Unknown	115	8.9
<b>Service Setting</b>	Admitting hospitals	756	58.6
	Affiliated Agencies	64	5.0
	Non-MOH Agencies	52	4.0
	District hospitals	418	32.4
<b>Employer</b>	MOH	1175	91.1
	Non-MOH	115	8.9
<b>Direct Exposure to COVID-19</b>	Yes	885	68.6
	No	337	26.1
	Unknown	68	5.3

Note: MOH = Ministry of Health

### **Theme 1: Work Safety and Hazard**

The subthemes that emerged related to work safety and hazard include psychological implications and management, as well as inadequate resources and complications. The subthemes related to “psychological implications and stress management” contributed about 20.8% of the codes of the thematic analysis. The HCWs described feeling stressed up, worried and anxious, demoralized, low mood, angry, and paranoid. The symptoms of burnout were overwhelming as shared by one of the staff nurses, *“I feel very stressed-up with too high workload”*. A contract medical officer

ventilated his disappointment and said that, “do not add more stress to work - most of us are already stressed up with the news. Our final contract is for another 2 years, and no one knows what happens after that...an extra stress during this Covid outbreak”. The stress was overwhelming until one participant described having suicidal thoughts.

**Table 2**  
*Themes, Subthemes and Percentages of Codes*

No	Theme	Subthemes	Percentage of Codes
1	Work Safety and Hazards	Safety measures	22.00%
		Psychological implications and stress management	20.80%
		Inadequate resources	18.40%
2	Organisational culture and behaviour	Standard Operating Procedure	6.00%
		Teamwork	5.50%
		Work division and responsibility	3.80%
		Professionalism	3.30%
		Leadership quality	3.10%
		Dissemination of information	1.60%
		Staff welfare	0.70%
3	Appreciation and reward	Allowance	5.30%
		Reward leave	1.80%
		Appreciation	1.10%
4	Concern on public issues	Heed the advice of the authorities	3.80%
		Instruction for help-seeking	0.90%
		More health promotion	0.70%
		Everyone’s responsibility	0.40%
		Insurance coverage	0.40%
		Do not panic	0.40%

Many suggested ways of stress management include having suitable working hours and time or day off as described by one of the medical officers, “we should be given alternate standby with active duty one week apart” and a staff nurse, “I also have a family to take care of. I just want a fair leave”. Other ways for stress management suggested by the participants include the need for psychological support, “have a phone number/line for counseling that is active 24 hours only for staff in need”; ensuring general

welfare (such as accommodation, food and coffee breaks), and leisure activities. Many suggested using spiritual and religious coping, as recited by one of the staff,

*“while busy with our job, do not forget of devotion to Allah, remember each other to strive to improve spiritual practice and always intend to work for the sake of Allah. There is no power, no effort on our part as the creation and sinful servants of God. May God accept all that is”.*

“Inadequate resources” encompassed 18.4% of the total codes. The HCWs shared their opinions on what comprised inadequate resources, and they included the need for more staff, good and quality personal protective equipment (PPE), medical appliances (such as disposable medical items including alcohol hand scrubs, other scrubs and towels for sanitizing purposes), and other medical-related facilities (such as exclusive accommodation for staff). For the “safety measures”, suggestions by most of the HCWs included the need to wear protective gear, sanitization and disinfection, screening for staff and patients, and compulsory quarantine for staff who are exposed and infected with COVID-19.

## **Theme 2: Organizational Culture and Behaviour**

The HCWs shared their opinion on several subthemes related to the organizational culture and behaviour of the hospital they were working in. They emphasized matters related to Standard Operating Procedures (SOP), including the need to enhance the SOP for more detailed information, simplifying the flow of process or procedure, and strictly abiding by the SOP for an efficient and safe working environment. Moreover, they voiced out their disappointment with certain supervisors or leaders, who kept changing the SOP, which might have resulted in discrepancies and confusion while providing the services, described by one of the staff,

*“Please. for the appropriate party to issue clear instructions according to the SOP or the correct guidelines in managing the current COVID outbreak whether from the aspect of ward preparation, logistics, patient escort procedures and also asset management. Instructions that are not clear and keep changing will cause staff to feel stressed up and confused.”*

Another crucial element in the organization suggested by the HCWs was being “professional” and having “leadership qualities”. The HCWs described good leaders as those who ask and consider the opinions of the subordinates; and who are vigilant and concerned about the welfare and needs of the staff. For example, one of the participants said, *"Don't let us be too stressed by the management who only know how to give instructions but never know what we feel while dealing with Covid-19 patients"*. The participants also suggested a mechanism for a comprehensive procedure for appraisal, which includes evaluation for the heads. For example, a staff nurse shared her disappointment on this matter,

*“Heads of Departments need to be more alert with the situation of staff on duty and not pressure staff on duty to work overtime if they cannot do it for some reason. Sometimes, ward sisters like to threaten staff through SKT (Annual Appraisal) – not being professional and put pressure on the subordinate staff. There should be a channel for staff to make complaints against the heads who abuse their power and take action against them. We pity the subordinate staff who were threatened as such. Not all bosses are like that, but many do”.*

At the same time, most of the participants wanted everyone to embrace the spirit of teamwork by collaboratively helping each other to combat the pandemic. They reminded the leaders to properly schedule the rosters so that “work duties and responsibilities are equally distributed” among the staff. Another crucial element suggested by the HCWs was the “dissemination of information”. They urged the hospital authorities to continuously provide updated information on every aspect of the COVID-19 illness and its management.

### **Theme 3: Appreciation and Reward**

“Appreciation and reward” were some of the important themes that emerged from the analysis. The HCWs asked for a little appreciation in the form of “special leave” for them. They claimed that they were entitled to 14-days of quarantine leave or unrecorded leave, and therefore, should be given the day off or time off as part of the reward after long hours of working. For example, one of the nurses was very disappointed because she was asked to use her annual leave and was not given quarantine leave when she had to isolate herself after being a Person Under Investigation (PUI), as

she said, "*the annual leave should not be deducted for quarantine for (person under investigation) PUI COVID-19*", and added that, "*we should be given a day off after seeing patients with COVID*".

Many of the HCWs asked for an increase in the critical allowance or "special allowance" should be given to staff who managed the COVID-19 patients. A few also suggested that the allowance should not be given only to the frontliners (such as doctors, nurses, and medical assistants) but should also include those who supported the team (such as the ambulance drivers, laboratory staff, physiotherapists, and radiographers).

#### **Theme 4: Concern on Public Issues**

A few of the HCWs stressed the importance of heeding the advice of the authorities, such as "staying at home" as provided by the Movement Control Order (MCO) provisions, frequent washing of hands, wearing of a mask, not sharing fake news, and practising social distancing. They urged the government to enhance health promotion and provide more information on COVID-19, as well as offering ways of seeking help and getting treatment for the infection. Most importantly, they reminded the public that it is everyone's responsibility to combat the infection for the benefit and wellbeing of the entire nation.

## **DISCUSSION**

Through our exploration of the subjective opinions and suggestions, in keeping with popular and well-known issues related to COVID-19, we also identified that the HCWs were very stressed up with the work safety and hazards including concerns on the inadequate safety measures, psychological consequences of the impacts of infection, and lack of resources, in particular, the lack of human resources and personal protective equipment (Godlee, 2020; Smith & Freyd, 2014). Furthermore, the psychological burden as found by other researchers elsewhere, not only focused on the increased workload but also fears of being infectious to other colleagues and families, having a responsibility to care for the critically ill and rapidly deteriorating patients including their ill colleagues (Walton, Murray, & Christian, 2020). Similar to the findings of previous studies during the disaster, our HCWs also experienced stress due to longer work hours and poor stress management (Maunder et al., 2003).

Interestingly, the other main concerns highlighted by the HCWs were related to organisational culture and behaviours. The HCWs were concerned with the lack of proper SOP, poor leadership quality, lack of professionalism, poor teamwork and problems in communication, as well as dissemination of information. Despite the presence of guidelines on the disaster management and mobilisation of the Crisis Preparedness and Response Centre (CPRC), the existing SOP and guideline may not be effective enough to ensure well-organized disaster management at the grassroot level (Rahman, 2012). In a local study evaluating the preparedness of staff nurses for disaster management, the level of preparedness in terms of knowledge and skills among them was only moderate (Sham, Musa, Mohamed, & Othman, 2018). Furthermore, the restriction of movement had created remarkable challenges in the sharing of information quickly by the top-level management to the supporting staff as most of the top-down communication occurred through official letters which could have lacked clarity. The shortage of dedicated staff to handle this issue could have played a role in precipitating the stress. In a recent review of 41 studies on crises information systems done in countries like Germany, the Netherlands, Romania and Turkey, one of the important issues highlighted was the absence of “command” and “control” over the functionality of the crisis preparedness system. The review also highlighted the security issues on data sharing, which had resulted in a limited number of HCWs who can access the system (Haghighi, Moghaddasi, Rabiei, & Asadi, 2020).

In terms of professionalism and teamwork of an organisation, a recent study supported the findings which we found, and emphasised the importance of the role of the team leaders, having good communication skills, the empowerment of leadership among the team members, humanity and humility, as well as the importance of peer support system between colleagues (Walton et al., 2020). The author also suggested that the leaders themselves model good practices and behaviours for coping, including seeking help and self-care (Walton et al., 2020). In a hyper-volatile, uncertain, complex, and ambiguous (VUCA) environment during the pandemic, experience and trustworthiness have been suggested to be the main attributes of the crises leader (Alkhalidi et al., 2017).

Not surprising, as described by our HCWs and supported by other previous local studies, apart from inadequate protective gears (especially PPE), the non-structural component, such as medical laboratory equipment

and supplies, architectural, critical lifeline, updated building document, equipment, and furnishing should also be ensured to be functioning properly and effectively (Samsuddin, Takim, Nawawi, Rosman, & SyedAlwee, 2018). Certainly, as suggested by our HCWs dealing with extreme stress during this limbo, fluid and agile situation, the hospital management and organisation should provide safe and effective stress management, such as the implementation of online PFA to try and boost the motivation of the HCWs through reward and reinforcement.

Perhaps, to deal with the challenging pandemic environment, ideal and revolutionized hospital management with innovative yet sustainable competitive strategies are required. Moreover, new systematic documentation of organizational procedures, focused improvements in hospitals overall systems, and a paradigm shift in today's highly competitive world would further enable hospitals and healthcare centres to be more successfully implemented (Ghasemi et al., 2017; McHugh & Cross, 2021). In addition, proper implementation of hospital systems is also pertinent towards ensuring job satisfaction and organizational commitment observed amongst employees (Azeem & Akhtar, 2014; Körner et al., 2015).

In essence, the cutting edge of a demonstrated high-performance and quality community hospital management can serve as valuable guides to the potential success of this important healthcare sector more so in the current presence of a global COVID-19 pandemic. HCWs would provide the needed employee-based commitment in time of this current health crisis if the said measures alongside affirmative organizational characteristics such as positive financial strengths, leadership skills, and positive working culture are being established and put in place by the hospital administrators concerned (McHugh & Cross, 2021).

## **CONCLUSION AND RECOMMENDATION**

This study highlights that HCWs in Malaysia are experiencing significant distress while dealing with the COVID-19 outbreak. The significant essential factors contributing to their stress include their worries about work safety and hazards, lack of resources and stress management, matters related to organizational culture and behaviour including the level of professionalism, teamwork, work guidelines and procedures. Nevertheless,

there are many other contributing factors for psychological distress, such as personal problems, other physical and mental illnesses or conditions, and also life events that the HCWs might have experienced that were not captured by this study. Despite the limitations, these findings are crucial to informing various stakeholders, particularly those in mental health divisions, hospital administrations, and crisis management as they would be able to utilise essential steps in preventing mental health crises among HCWs during this outbreak. The knowledge gained from this study can help in healthcare service improvement. It can provide scientific guidance to the highest authority to support the health advisory messages sent by the ministry to HCWs throughout Malaysia and provide more service focus and priorities to key areas that need to be emphasised in order to prevent mental health problems during this outbreak.

## **CONTRIBUTIONS OF AUTHORS**

The first or lead author is the main writer and corresponding author. The other authors contributed significantly in designing the online form, collecting and analysing the data, and writing.

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## **CONFLICT OF INTEREST**

All authors declare that they have no conflict of interest

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