How healthcare workers are coping with mental health challenges during COVID-19 pandemic? - A cross-sectional multi-countries study

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Background: The coronavirus pandemic (COVID-19) has a social and psychological impact among healthcare workers worldwide and appropriate coping strategies are essential to avoid the negative mental health effects. This study aimed to investigate the coping strategies among the healthcare workers from different countries and their attitude towards teamwork during the COVID-19 pandemic.

Methods: A cross-sectional study was conducted by using an online, web-based questionnaire, which was distributed to healthcare workers from 32 countries during April and May 2020. The respondents were recruited by the non-random convenience sampling method.

Results: A total of 2166 respondents responded to the survey and the majority were working in low- and middle-income countries. Among them, 36% were doctors, 24% were nurses and 40% worked in other healthcare sectors. More than 70% of the respondents answered that “getting family support” and “positive thinking” were coping methods for them during the COVID-19 pandemic. Approximately half of the respondents worshiped according to their belief and conducted prayers (58.4%) and had adequate sleep and food intake (48.2%). The significant associations were observed between attitude score towards interprofessional teamwork and gender (p = 0.009), age (31–45 years) (p < 0.001), marital status (p < 0.001), occupation (p < 0.001), working experience (2–5 years) (p = 0.005), current workplace (clinics) (p = 0.002).

Conclusion: The local healthcare authorities should promote coping methods and develop an innovative way to encourage practicing among healthcare workers. Digital mental health support interventions or workplace mental health support teams should be accessible to protect mental wellbeing among healthcare workers.

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1. Introduction

The coronavirus pandemic (COVID-19) has an impact on the social and psychological impact on the general populations as well as the healthcare workers. Among the healthcare workers, fear of contagion, transmitting infection to their families' members, inadequate protective measures, and risk of medical violence imposed the burden on their mental health. Lockdown measures caused the psycho-social impact and it was significantly associated with gender, occupation, and physical activities among the respondents in India. The evidence has been reported the sufferings of psychological distress, insomnia, anxiety, and depression among the healthcare workers. The systematic reviews on the mental health impact due to COVID-19 reported that the estimated prevalence of insomnia among the healthcare workers are 38.9%, 27.4–71.5% suffered stress, the prevalence of anxiety and depression are from 23.04 to 44.6% and 8–50.4% respectively. Frontline healthcare workers, female, nurses, stationed in Wuhan were reported to have a higher psychological burden. Therefore, timely activities among the respondents in India.

Informing the update on the pandemic, clear communication, arrangement on appropriate shift hours, training on the management of COVID-19 patients, prevention measures, and providing guides for the appropriate usage of protective equipment could be beneficial for the healthcare workers. The World Health Organization advised the healthcare workers for self-care particularly for maintaining healthy lifestyles and getting informal social support. The recommendation included adequate sleep and rest, eating a healthy and sufficient diet, maintaining physical activities, and stay in touch and get support from family and friends. On a contrary, de-stressing by using alcohol, tobacco, and other drugs were strongly discouraged since they might impose complications to the long-term wellbeing of the healthcare workers. Therefore, it is crucial to understand the coping strategies among healthcare workers across the globe to inform the local healthcare managers and policymakers to prepare for the supportive interventions.

During the previous Ebola epidemics, the healthcare workers revealed that training, workshops, and supply of PPE, and essential resources improved to overcome fear and gain confidence in patient management. A recent qualitative study with 15 male healthcare workers in Pakistan revealed that limited spending the time on the news, media and limiting the sharing of detailed info about the COVID-19 management duties could help them to reduce stress and vulnerability. Religious coping strategy played an integral role in coping with stress among those front-line healthcare workers. Positive perception of their roles during the pandemic as another emergency situation and providing care with empathy could help to manage their mental health challenges.

Multidisciplinary teamwork is essential in the healthcare sector and had proven benefits on the patients’ outcome. Moreover, a positive attitude towards teamwork and having good team support could reduce burnout, improve job satisfaction and create a healthy working environment. In the midst of pandemic, teamwork among healthcare workers becomes a more important matter to overcome the challenges and to manage the COVID-19 patients.

Although the previous studies reported the impact on mental health among healthcare workers, the information on coping with those mental health challenges is still limited. Identifying the preferred and pragmatic coping strategies among the healthcare workers could contribute valuable information in the planning and implementation of effective mental health support interventions. In a pandemic, collaboration and interprofessional teamwork at a large scale are essential especially if it involves the whole world. Decades of research postulates that teamwork is best achieved in stable conditions where those involved have time to learn to work together. Peer support and encouragement could be done to improve mental wellness and to reduce stress at the workplace. On a contrary, team conflict is a contributing factor for workplace stress and psychological burden. During times of crisis, teams and their ability to function should be tested. Considering the triggers for the psychological impact and possible coping strategies and support (Fig. 1), we aimed to investigate the practical strategies of coping among healthcare workers in various sectors. Therefore, our study aimed to investigate the coping strategies among healthcare workers from different countries and their attitude towards teamwork during the COVID-19 pandemic.

Fig. 1. Triggering and relieving factors for psychological impact among healthcare workers during COVID-19 pandemic.
2. Methods

This cross-sectional study was conducted between April and May 2020. The online, web-based questionnaire was distributed to the different healthcare workers, including doctors, nurses, midwives, laboratory technicians, pharmacists, medical assistants, medical educators, public health practitioners, and medical researchers. We recruited the healthcare workers who are working in both private and public sectors by using the non-random convenience sampling method.

The researchers from 12 countries, including Albania, Egypt, Iraq, Kenya, Mozambique, Myanmar, Palestine, Philippines, South Africa, Tanzania, Uganda, and Zimbabwe collaborated on this study. The COVID-19 situation was at the beginning state of disease spread in those countries at the time of data collection. The online questionnaire was distributed via email and social media (Fig. 2). All respondents were provided the detailed written information about the research before taking part. Informed consent was obtained from the respondents before the initiation of the online questionnaire. Ethical approval was granted from the Research Ethics Committee from Asia Metropolitan University (AMU), Malaysia, Project Ref No: AMU/MREC/FOM/NF/03/2020.

2.1. Study instrument

The respondent’s socio-demographic and work-related questions were included in the survey. The coping strategy items were created based on the previous literature and WHO mental health and psychosocial consideration guide. The question “How do you cope with stress during the COVID-19 pandemic?” was asked to the responses and six leading answers were provided: family support, peer support, religion/prayers, exercise, positive thinking, mindfulness/meditation, and others. Multiple responses were accepted for each respondent. In the “others” option, the respondents were allowed to answer their practical way of coping with the stress during the pandemic.

The attitudes towards teamwork during the pandemic were measured by using five items. The items measure the attitudes towards the positive and negative psychological impact of teamwork, and the effect of teamwork on patients’ outcomes. The items were constructed based on the previous literature about interprofessional teamwork. The items are: Interprofessional teamwork and collaboration reduce stress in managing the patients during the pandemic; I am willing to discuss patient management with my team members during the pandemic; Disagreement (or) argument often occur in my team which remains unsolved; Interprofessional teamwork improved the health outcomes of the patients during the pandemic; I am getting psychological support from team members at the workplace during the pandemic. The content validation was carried out by collecting the six expert’s opinions on the relevance and representativeness (5 clinicians, 1 infectious disease specialist). Descriptive analysis was carried out on the ratings provided by the experts and calculated the Item-Content Validity Index (I-CVI). The I-CVI for items was 0.85 and above, and the ratings provided by the experts and calculated the Item-Content Validity Index (I-CVI). The I-CVI for items was 0.85 and above for each item at their current workplace.

2.2. Data analysis

Descriptive statistic was conducted for the socio-demographic variables, work-related variables, and coping strategies. The preferred coping strategies among different occupation was compared by using Pearson Chi-square test. The scoring was given for the individual item for the attitudes towards teamwork during a pandemic; “strongly disagree = 1”, “disagree = 2”, “neutral = 3”, “agree = 4”, and “strongly agree = 5”. The reverse scoring was done for the negative item. The mean score for the individual item and the combined score was computed. General linear model (GLM) analysis was conducted to test the association between the characteristics of respondents and attitudes towards teamwork during the pandemic.

3. Results

The geographic distribution of the respondents was shown in Table 1. A total of 2166 respondents from 32 countries responded to the survey, and the majority of them (77%) were from lower-middle income countries (Table 1, Fig. 3).
Table 2 described the socio-demographic characteristics of respondents. Approximately two-thirds (67.2%) were female respondents. The majority (88.6%) were less than 45 years of age. Among them, 36% were doctors, 24% were nurses and 40% worked at other healthcare sectors such as pharmacists, laboratory technicians, public health specialists, medical educators, and healthcare administrators. More than half of the respondents (57.2%) had working experiences of 6 years and above in their profession (Table 2).

The coping strategies among the doctors, nurses, and other healthcare workers were reported in Table 3. More than 70% of the respondents answered that "getting family support" and "positive thinking" were coping methods for them during the COVID-19 pandemic. Approximately half of the respondents worshiped and prayed (58.4%) and had adequate sleep and food intake (48.2%). A significant difference in preferred coping methods was observed among doctors, nurses, and other healthcare workers.

The doctors reported a higher preference for ‘positive thinking, religious/prayers, exercise, getting peer support, and mindfulness/meditation methods’ compared to the nurses and others. Meanwhile, the nurses reported higher preference on ‘satisfaction with job achievement, reading, planning for global responses and new ideas, and other coping strategies including playing games, farming, gardening, participation in voluntary activities, concentrating on work (working all the time), playing sports at home, staying away from fake news, E-learning, learning for career, cooking, writing stories’ compared to doctors and other healthcare workers. ‘Adequate sleep and food intake, watching television, learning new things, learning the situation’ were higher among the other healthcare workers compared to doctors and nurses (Table 3).

The mean score and standard deviation for each item of the respondents’ attitude towards interprofessional teamwork were reported in Table 4. Four out of five items had more on the agreement responses while taking into account that reverse scoring was carried out for item No. 3. However, the mean score of the statement ‘I am getting psychological support from team members at the workplace during pandemic’ was only 2.51 (SD 1.31), indicating the disagreement or neutral on that statement (Supplementary Table 1). The Cronbach’s alpha of all the items was 0.66. The skewness of the overall mean score was –0.52 and kurtosis was –0.54.

Table 4 reported the association between the characteristics of respondents and the mean attitude score towards inter-professional teamwork during the pandemic by using GLM analysis. Significant associations were observed between gender, age, marital status, occupation, working experience, and current workplace (Table 4).

The mean attitude score towards the inter-professional teamwork among females was 0.504 units less than the male healthcare workers (p < 0.01). Meanwhile, the mean score was 1.249 units higher among the age group of 31–45 years compared to the younger age, <30 years (p < 0.001). The single healthcare workers had 1.172 units of higher mean score compared to the married respondents (p < 0.001). Those who are working in the other healthcare sectors had 1.130 units lower mean score compared to the doctors (p < 0.001). Those who had working experience between 2 and 5 years had a lower mean score of 1.074 units compared to those who had >10 years’ experience (p = 0.005). Healthcare workers stationed at the clinics had the highest mean score (p = 0.002), meanwhile, those who are working at the other places had the lowest mean score (p < 0.001) (Table 4).

Table 1

<table>
<thead>
<tr>
<th>World bank country classification by income</th>
<th>List of countries and territories of participants (n = 32)</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-income countries</td>
<td>Ethiopia, Mozambique, Nepal, Rwanda, Syria, Tanzania, Uganda</td>
<td>30 (1.39)</td>
</tr>
<tr>
<td>Lower-middle-income countries</td>
<td>Bangladesh, Egypt, India, Kenya, Lesotho, Myanmar, Nigeria, Pakistan, Palestine, Philippines, Zimbabwe</td>
<td>1674 (77.29)</td>
</tr>
<tr>
<td>Upper-middle-income countries</td>
<td>Albania, Iraq, Lebanon, South Africa</td>
<td>445 (20.54)</td>
</tr>
<tr>
<td>High-income countries</td>
<td>Cyprus, Germany, Greece, Italy, Japan, Republic of Korea, Sweden, United Kingdom</td>
<td>17 (0.78)</td>
</tr>
</tbody>
</table>

Fig. 3. Geographic distribution of the respondents from 32 countries (n = 2166).
4. Discussion

The mental health effects of the COVID-19 pandemic among healthcare workers have been well documented. Recent studies from all over the globe reported healthcare workers suffering from increased stress to psychological distress, anxiety, depression, insomnia, and other mental health issues during the pandemic. There had been even reports of suicide among these workers due to the physical and psychological burden during that time.

Stress, if not managed early and appropriately may result in mental illness. Lack of resources, lack of professional and informal support, being overworked to the point of exhaustion as well as fear of being contaminated and spreading the disease to others were frequently cited as the reasons for the negative mental health effects on healthcare workers during the recent outbreak. Apart from individual causes, conflicts and difficulties during interprofessional collaboration may contribute as sources of stress. Removal of the source of stress is the most effective remedy for symptom resolution. Nevertheless, this is not always possible. Health services on the verge of collapse due to years of poor funding and management do not miraculously recover but tend to decline further. Hence, implementing good coping strategies and improving teamwork skills are necessary for these workers in order to weather the difficult situation.

4.1. Coping

Health professionals in this study coped with their distress during the pandemic using a plethora of techniques ranging from psychological, social, and religious/spiritual approaches. Similar findings have been reported in recent studies. For example, respondents practiced positive thinking as a psychological technique to overcome stress. This is hardly surprising since the use of positive thinking in stress management has been well and truly documented. Well-documented patients protective comments may be counterproductive.

The social relationship helps people to manage their stress by enabling them to listen to and encourage each other, regulate emotion and remain resilient. In our study, respondents reported drawing support from the family being one of the main methods of reducing stress. Although social distancing may hamper physical interactions, the wide availability of social media and online networking platforms has seen their utilisation during outbreak situations increase manifold. However, social support can be a double-edged sword; it may help to alleviate stress, but it may also worsen stress because some families might show their worries irrationally.

Note-those who reported “Yes” to each coping strategy. Multiple answer allowed. Others included pharmacists, laboratory technicians, public health specialists, medical educators, and healthcare administrators. Pearson’s Chi-square. Other coping strategies including playing games, farming, gardening, participation in voluntary activities, concentrating on work (working all the time), playing sports at home, staying away from fake news, E-learning, learning for career, cooking, writing stories.
4.1. Coping strategies

Coping strategies help individuals cope with stress and anxiety. In this study, respondents were asked to report their preferred methods of coping. The options included relaxation, exercise, prayer, medication, and the use of substances. The analysis showed that the age of respondents significantly affected their coping strategies. For example, younger respondents preferred exercise and prayer, while older respondents preferred medication and the use of substances.

Table 4: Association between the characteristics of respondents and attitudes towards interprofessional teamwork during the pandemic (n = 2166).

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean (SD)</th>
<th>B</th>
<th>95% C.I.</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>16.458</td>
<td>16.216</td>
<td>17.701</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>17.255</td>
<td>(3.746)</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>16.209</td>
<td>(4.426)</td>
<td>–0.504 –0.883 –0.124</td>
<td>0.009</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;30 years</td>
<td>15.545</td>
<td>(4.265)</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>31–45 years</td>
<td>17.619</td>
<td>(4.047)</td>
<td>1.249 0.611 1.888</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>46 years and above</td>
<td>16.762</td>
<td>(3.808)</td>
<td>0.460 –0.380 1.300</td>
<td>0.283</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buddhism</td>
<td>17.209</td>
<td>(3.373)</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>Christian</td>
<td>17.918</td>
<td>(4.262)</td>
<td>0.452 –0.543 1.447</td>
<td>0.373</td>
</tr>
<tr>
<td>Islam</td>
<td>15.739</td>
<td>(4.086)</td>
<td>–0.626 –1.610 0.358</td>
<td>0.212</td>
</tr>
<tr>
<td>Othersa</td>
<td>18.314</td>
<td>(3.243)</td>
<td>1.473 –0.213 3.158</td>
<td>0.097</td>
</tr>
<tr>
<td>No religion</td>
<td>16.071</td>
<td>(4.045)</td>
<td>–0.509 –2.270 1.252</td>
<td>0.571</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>16.153</td>
<td>(4.606)</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>17.177</td>
<td>(3.688)</td>
<td>1.172 0.776 1.568</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctors</td>
<td>17.633</td>
<td>(4.257)</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td>17.103</td>
<td>(3.443)</td>
<td>0.210 –0.271 0.692</td>
<td>0.392</td>
</tr>
<tr>
<td>Othersb</td>
<td>15.256</td>
<td>(4.304)</td>
<td>–1.130 –1.166 –0.600</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Work experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;10 years</td>
<td>17.442</td>
<td>(4.301)</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>&lt;2 years</td>
<td>16.715</td>
<td>(3.530)</td>
<td>0.652 –0.157 1.462</td>
<td>0.114</td>
</tr>
<tr>
<td>2–5 years</td>
<td>14.478</td>
<td>(4.580)</td>
<td>–1.074 –1.828 –0.320</td>
<td>0.005</td>
</tr>
<tr>
<td>6–10 years</td>
<td>17.228</td>
<td>(3.346)</td>
<td>0.443 –0.137 1.024</td>
<td>0.134</td>
</tr>
<tr>
<td>Current workplace</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td>17.233</td>
<td>(4.071)</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>Clinics</td>
<td>17.312</td>
<td>(3.759)</td>
<td>0.803 0.294 1.312</td>
<td>0.002</td>
</tr>
<tr>
<td>Laboratory</td>
<td>16.907</td>
<td>(3.317)</td>
<td>0.541 –0.534 1.615</td>
<td>0.324</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>16.595</td>
<td>(3.002)</td>
<td>0.885 –0.086 1.855</td>
<td>0.074</td>
</tr>
<tr>
<td>Othersc</td>
<td>14.612</td>
<td>(4.619)</td>
<td>–0.885 –1.423 –0.346</td>
<td>0.001</td>
</tr>
<tr>
<td>Having contact with COVID-19 patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>16.110</td>
<td>(4.276)</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>17.316</td>
<td>(4.076)</td>
<td>–0.011 –0.422 0.400</td>
<td>0.957</td>
</tr>
</tbody>
</table>

Note: coping strategies—“Yes” response is reference.
a Others included Hinduism and Shinto.
b Others included pharmacists, laboratory technicians, public health specialists, medical educators, and healthcare administrators.
c Others included healthcare institutions, Ministry of Health, Non-Governmental Organizations.

4.2. Teamwork

Teamwork is a critical component of healthcare delivery. The study found that teamwork was used differently by healthcare professionals. The most common method of working together was through communication. The analysis also showed that age, gender, and marital status had a significant effect on the use of teamwork. Older respondents, male, and married respondents were more likely to use teamwork.

4.3. Strengths and limitations of the study

The study helped identify factors that influence the use of teamwork in healthcare. However, the study had some limitations. First, the study was conducted in one hospital, which may limit the generalizability of the findings. Second, the study was cross-sectional, which may not capture the dynamic nature of teamwork. Third, the study was limited to healthcare professionals, and the findings may not be generalizable to other healthcare settings.
profession. The total number of respondents is fairly large. All of these aspects are in favour of the study and its findings can be applied to most communities in the world.

Nevertheless, the use of the convenience sampling method is its main weakness. Convenience sampling may lead to bias. Also, utilisation of online surveys yielded a lower response rate, relative to the population studied. Although there might be different challenges in the private and public healthcare sectors, this study was not able to address these challenges. However, the number of respondents included at the end is large enough to mitigate both the effects bias and lower response rate.

5. Conclusion and recommendations

In this study, family support, positive thinking, and religious/prayers were the most preferred strategies for coping with psychological impact among the healthcare workers in the midst of COVID-19 pandemic. The local healthcare authorities should promote the coping methods and develop an innovative way to encourage practicing among healthcare workers. Although interprofessional teamwork reduces the stress under the pressure of pandemic, psychological support from the team member is lacking and which should be taken lightly. Moreover, mental health support teams should be in place at work to protect and improve the mental wellbeing of healthcare workers.

At the individual level, (i) getting support from family members, (ii) social support, (iii) participating in mindfulness practices could improve personal resilience during the COVID-19 pandemic. At the organization level, (i) creating a positive workplace and team collaboration, (ii) arranging work schedule to enable adequate rest and sleep, (iii) providing rest areas at the workplace for the healthcare workers at long shift, (iv) providing mental health support and counselling, (v) arranging stress management programmes and online resilience training modules could help to improve resilience and coping up mental health challenges among healthcare workers.

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Ethics approval

Ethical approval was granted from the Research Ethics Committee from Asia Metropolitan University (AMU), Malaysia, Project Ref No: AMU/MREC/FOM/NF/03/2020.

Consent to participate and publication

Informed consent was obtained from all study respondents.

Availability of data and material

Data can be made available upon request.

Authors’ contributions

MNNH and RRM conceptualised and planned the project. ALA, TTS, and SM supervised the project. MNNH, RRM, AA, FK, RAE, JMN, HAH, MH planned and coordinated the study and data collection. MNNH and RRM conducted the statistical analysis. MJNNH and RB drafted the manuscript. TTS and SM led the editing and refinement of the manuscript. All authors contributed to, reviewed and approved the final manuscript.

Declaration of competing interest

The authors declare no conflict of interest.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.cegh.2021.100759.

References


