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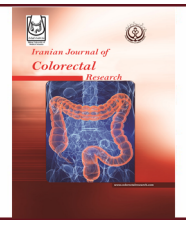

Burnout and Anxiety Among Healthcare Professionals During COVID-19 Pandemic in India

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Abstract

Background: The coronavirus disease 2019 (COVID-19) pandemic undoubtedly has a sustained psychological impact on healthcare workers (HCWs), particularly frontline workers. Actions are needed to mitigate the effects of COVID-19 on mental health by protecting and promoting the psychological well-being of HCWs during and after the outbreak. The present study sought to determine the views and concerns of HCWs regarding the fight against COVID-19, to assess their stress and burnout levels, and to evaluate the awareness and measures of prevention utilized by them during these testing times.
Methods: The study utilized a survey form developed by researchers as a data collection tool. Research was conducted on 242 healthcare professionals in the Indian population using the online survey method. Appropriate statistical methods (chi-squared, Kruskal-Wallis, and Mann-Whitney U test) were recruited in SPSS version 21 to analyze the data. The finalized questionnaire included background information, stress caused by COVID-19, the Generalized Anxiety Disorder 7-item (GAD-7) scale, and awareness of and preventive measures against COVID-19.
Results: Doctors were found to be most anxious among the different HCWs, with greater anxiety in females. Television was the preferred source of information.
Conclusion: Results of the present study showed that although HCWs provide services to COVID-19 patients, they are not protected against the risk of infection.

Keywords: COVID-19, Burnout, Anxiety, Healthcare professionals, Stress

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Introduction

Chinese health authorities first reported coronavirus disease 2019 (COVID-19) on December 31, 2019, as a cluster of cases of acute respiratory disease in people associated with the Hunan seafood and animal market in Wuhan, Hubei Province, Central China (1). As of April 4, 2020,

the disease had spread to more than 60 countries worldwide, with more than 1 million cases of infected patients. Based on the data from 72,314 cases, 14% and 5% of patients face serious and critical conditions, respectively, with an overall mortality rate of 2.3% (2). In general, COVID-19 can be a fatal disease due to progressive respiratory complications (2, 3). It is highly transmissible and caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the seventh coronavirus proven to infect humans (4). However, limited data are available on the disease's clinical traits and natural evolution (3). Furthermore, the COVID-19 pandemic has compounded the global crisis of stress and burnout among healthcare workers (HCWs) (5, 6).

The sudden and fast spreading of the COVID-19 pandemic worldwide caused a sudden increase in the workload of HCWs in parallel with the possible increase in mortality rates. The fact that the extent of the problem is not fully understood can lead to serious loss of morale and mental health problems in HCWs (1). Besides, increased workload, physical exhaustion, nosocomial transmission, inadequate personal protection, and prolonged exposure to large numbers of infected patients (increased virus load) increase the risk of infection for HCWs (1, 7). Additionally, the psychology of protection and prevention caused by the inability to estimate the size of the event can make the living conditions of HCWs even more difficult (8). HCWs are especially vulnerable to mental health problems, including fear, anxiety, depression, and insomnia (2). The more threatening the individual perceives the event, the more intense the anxiety they experience. Therefore, it becomes essential to control the anxiety levels of HCWs working in an abnormal environment (1). In this respect, providing psychological support to frontline workers represents a significant public mental health challenge over the coming years. The extreme pressures experienced by HCWs during a pandemic may increase their risk of burnout, which has adverse outcomes not only for individual well-being but also for patient care and the healthcare system. Thus, psychological support should focus on organizational as well as individual characteristics, with a broader goal of maintaining an organizational culture of resilience (8).

Maintenance of social contact is increasingly challenging in the context of social distancing requirements and, anecdotally, there are reports of HCWs experiencing social stigma and abuse due to public fears of contracting the virus from those with the greatest exposure. The additional uncertainty around COVID-19 progression and treatments and the challenges of limited resources mean that HCWs certainly face difficult decisions and moral dilemmas during the pandemic. This can result in moral injury, described as 'the psychological distress which results from actions, or lack of them, which violate someone's moral or ethical codes (7). Previous studies have also shown that post-traumatic stress disorder (PTSD) is pretty common among the survivors of infectious diseases (9).

Healthcare professionals request five things from their employer during the COVID-19 pandemic: hear me, protect me, prepare me, support me, and care for me. For the workforce to perform to their full potential over an extended time period, healthcare employers must provide early psychosocial support for all employees that addresses these requests and is focused on: the creation of a psychologically safe environment, strong leadership, clear organizational strategies for staff well-being, consistent communication, and significant team support (8, 10). Therefore, it is of great importance to implement urgently effective psychosocial and organizational interventions to protect the mental health of HCWs and prevent burnout (11, 12). Thus, this study aimed to synthesize evidence-based information through a questionnaire to evaluate the effects of the COVID-19 outbreak on the mental health of Indian HCWs.

Material and Methods

Patients

The study population consisted of HCWs working in different health institutions in India. The study used an internet survey method to reach all regions and ensure participation. A total of 242 HCWs participated in the study. Minimum sample size calculation was done as per the Sample Size Formula: $((1.96)^2 x\ p\ x\ q)/I^2$, where I=10; p=34%; q=(100-p)=66. Therefore, the minimum sample size was n=86+10% non-respondents=96. A significant sample size of n=242 was taken during the study. Since face-to-face interviews were not possible due to the pandemic, the internet was used to collect data, and HCWs were asked to fill out the questionnaire by clicking the link attached to the e-mails sent around the country. Participation was entirely voluntary.

Measurements

In order to design and prepare the questionnaire, firstly, the questions were designed based on existing references, experts' ideas, and studies performed on job-related stress and burnout and the implications for HCWs resulting from the COVID-19 pandemic. The final questionnaire was composed of three parts asking about demographic data (age, gender, city of residence, and profession), stress caused by COVID-19, and awareness of the disease and its prevention.

The Generalized Anxiety Disorder (GAD-7) scale was also used as an evaluation tool. This seven-item instrument uses some of the DSM-V (Diagnostic and Statistical Manual of Mental Disorders) criteria for GAD (General Anxiety Disorder) to identify probable cases and measure anxiety symptoms. It can also screen for panic, social anxiety, and PTSD. It was modeled after the PHQ9 (Patient Health

Questionnaire) for quick and effective use within a primary care setting. Scores of 5, 10, and 15 are the cut-off points for mild, moderate, and severe anxiety, respectively. When used as a screening tool, further evaluation is recommended when the score is ten or greater (13).

According to Spitzer et al., using the threshold score of 10, the GAD-7 has a sensitivity of 89% and a specificity of 82% for GAD. It is moderately good at screening three other common anxiety disorders: panic disorder (sensitivity 74%, specificity 81%), social anxiety disorder (sensitivity 72%, specificity 80%), and PTSD (sensitivity 66%, specificity 81%). Hence, this tool was used in the current study due to its high sensitivity/specificity and ease of use (14).

Statistical Analysis

Data from the Google form was first downloaded in Microsoft Excel format and later entered in SPSS v. 21 for statistical analysis. Sociodemographic data of each participant was recorded and reported as percentages. The Kruskal-Wallis, chi-squared, and Mann-Whitney U tests were performed where appropriate.

Results

According to the study's findings, 69.3% of the study population were guardians/parents, among whom 50.6% had children above 18. Also, 54.8% of the population who filled the survey were HCWs. The majority (98.3%) were aware of how the disease is transmitted, and 100% were aware of how to prevent it. Notably, 86% had told their children at home about the ways of transmission of the virus, whereas 21.6% admitted threatening their children in relation to COVID-19 transmission. Also, 75.5% were extremely concerned that they may become infected, while 64.4% were anxious that their children might be infected as well.

In this study, 64.8% feared that they might transmit the infection to their children. Additionally, family members of 13.3% of the included population size got ill during the lockdown period, and 87.6% were extremely fearful that hospitals or clinics were high-risk areas of getting infected. Also, 70.4% of the guardians/parents observed that the pandemic had affected the child's usual routine apart from missed schooling, and 11.9% stated that their child did go outside the home for play-related activities. In addition, 85.1% stated that their children could observe social distancing, and 80.8% reported an increase in the child's screen time during lockdowns. Also, 34.8% communicated behavioral changes in the child during the lockdown period, while 33.8% of the guardians/parents were concerned that these behavioral changes might become permanent.

On observing the distribution of the study population according to various demographic variables, it was found that it was chiefly comprised of females (57.7%), most of whom were educated till the postgraduate level (70.1%), primarily living as nuclear families (66.4%).

In evaluating the distribution of the type of HCWs included in the study, it was noted that the data comprised doctors (51%) primarily. Anxiety levels were found to be maximum among doctors, followed by supporting staff and nurses in decreasing order. It was also noteworthy that higher anxiety levels were seen in females as compared to males. Additionally, anxiety rating was higher in nuclear families compared to joint families. Figure 1 represents the primary source of information regarding the pandemic to be the television (47.70%) and the internet (46.90%). Table 1 highlights the frequency of accessing information regarding COVID-19, where subjects with low anxiety (70.5%) accessed the related information daily. On the other hand, subjects suffering from moderate (47.6%) and high anxiety (60%) accessed information several times a day, which was statistically significant. Table 2 shows the GAD-7 scores of the study population, revealing

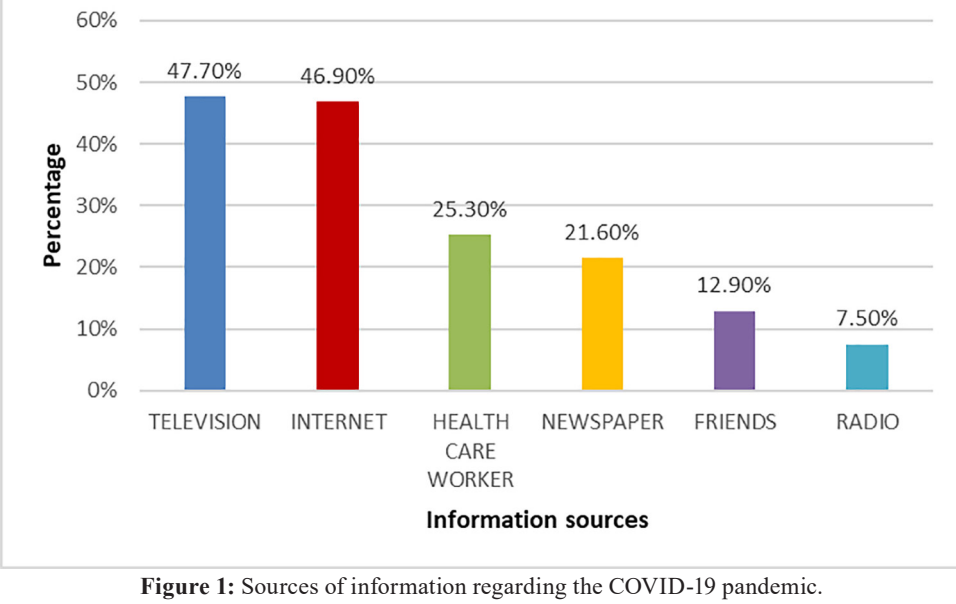

Figure 1: Sources of information regarding the COVID-19 pandemic.

Table 1: Correlation between frequency of accessing information regarding COVID-19 and anxiety levels

Frequency	Rarely	Sometimes	Daily	Several Times	Total
Low anxiety	0 (0%)	9 (10.2%)	62 (70.5%)	17 (19.3%)	88 (100%)
Moderate anxiety	3 (14.3%)	3 (14.3%)	5 (23.8%)	10 (47.6%)	21 (100%)
High anxiety	0 (0%)	0 (0%)	2 (40.0%)	3 (60%)	5 (100%)
P value	0.002				

Table 2: Summary of the Generalized Anxiety Disorder (GAD-7) measures among the health care workers

	Not at all	Several days	More than half the days	Nearly everyday
A) Feeling nervous, anxious or on edge	44.8%	40.2%	6.6%	5.8%
B) Not being able to stop/control worrying	47.3%	36.9%	7.1%	4.1%
C) Worrying too much about different things	37.8%	41.1%	12.0%	6.2%
D) Trouble relaxing	46.1%	37.3%	7.9%	4.1%
E) Being so restless that it is hard to be still	62.2%	23.7%	6.2%	1.7%
F) Becoming easily annoyed/irritable	45.2%	36.9%	10.8%	4.1%
G) Feeling afraid as if something awful might happen	38.6%	42.7%	10.4%	5.0%

that 41.1% of the subjects were worrying too much about different things on several days, and 42.7% were afraid that something awful might happen.

Results also outlined that 91.30% of the study population were afraid of coming in contact with an infected person, compared to 71.4% being skeptical of touching an infected object as a means of transmission of COVID-19. Figure 2 represents the measures that were undertaken by the study population to protect themselves from getting infected; wearing a mask while going out (92.50%) and avoiding large crowds (83%) were reported as the best means of protection.

In our study, 90.50% of the subjects described fever and 81.50% stated cough and sore throat as the identifying signs and symptoms of the viral infection. These were followed by diarrhea (37.80%) and other manifestations (22%), respectively. Finally, Figure 3 illustrates that 68.50% population attempted to find different ways to prevent getting infected, while 56.80% developed a new habit/skill as a way of coping with the stress and anxiety during the surge of the infection.

Discussion

In public health crises like the COVID-19 pandemic, healthcare workers (HCWs) not only have to put greater efforts into their activities for extended working hours but also suffer from less than-enough human knowledge about such an unforeseen emerging condition. The constant use of personal protection equipment (PPE) also adds to the physical fatigue and mental pressures on the HCWs due to difficulty breathing on prolonged use and limited access to toilets and water (10, 15). The pandemic has adversely affected the well-being of HCWs. The presence of depression and anxiety increases the risk of burnout, while social support can be expected to protect against burnout (11).

Tan et al. demonstrated a significant burden of burnout, anxiety, and depression on HCWs (12). A strong association was seen between SARS-CoV-2 testing, safety attitudes, gender, job role, redeployment, and psychological state. Low perceived preparedness to respond to COVID-19 increases stress and burnout, partly through fear of

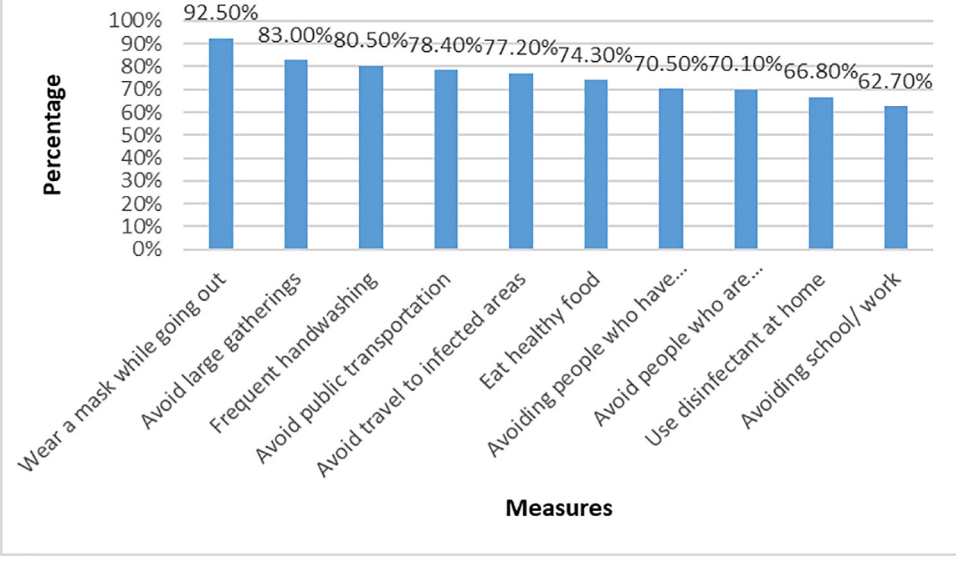

Figure 2: Measures taken to protect oneself during the COVID-19 pandemic.

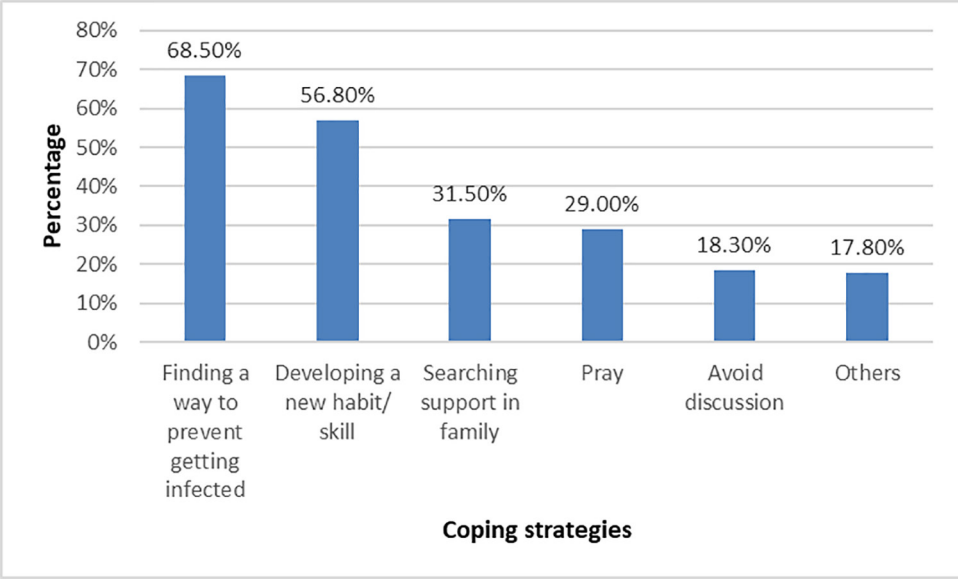

Figure 3: Ways of coping with stress and anxiety during the COVID-19 pandemic.

infection (5). In addition, due to the increased risk of exposure to the virus, frontline doctors, nurses, and HCWs fear that they may contract COVID-19 themselves. They worry about bringing the virus home and passing it on to loved ones and family members, particularly elderly parents, newborns, and immunocompromised relatives (15, 16).

In general, the outbreak of an emerging disease contributes to a general atmosphere of fear that needs to be psychologically studied through comprehensive research to understand its possible negative impacts on individuals' mental health and productivity. This would enable us to mitigate such impacts on HCWs who are on the front line of counteracting the disease (10).

Disruption of routine clinical practice, the sense of loss of control, and the subsequent fear of potential destabilization of health services have provoked 'overflowing' anxiety and depression among healthcare professionals, a feature that is not uncommon of epidemics (15). Thus, providing HCWs with adequate support in terms of considering their conditions and presenting solutions, increasing their awareness, encouraging them, and acknowledging their importance tends to reinforce them against the disease (10).

In a similar study, Bostan et al. concluded that the HCWs were primarily at great risk. In that study, 31.7% of HCWs had contact with cases of COVID-19, and 27.3% of participants provided services to patients diagnosed with COVID-19. Additionally, the authors stated that working and social conditions were at a moderate level according to the participants included in their study. However, anxiety levels were quite high, and there was an inverse relationship between workers' anxiety levels and working conditions (1). A preprint by Saleem et al. stated that more than three-fourths of healthcare providers fear getting infected during the management of COVID-19 patients (13).

Results synonymous with the present study were also found during the severe acute respiratory syndrome (SARS) epidemic in 2003 and the H1N1 pandemic in 2009; researchers evaluated the psychological stress on HCWs through various methods and observed elevated stress levels. Other emotional stress-inducing factors that were highly common among HCWs included exaggerated concerns about the health of themselves or their families, fear, and a sense of distress from working at a hospital (17, 18). Among HCWs treating patients with COVID-19, a Chinese study reported high rates of depression (50%), anxiety (45%), insomnia (34%), and distress (72%) (19). De Kock et al. (2020) postulated that the medical HCWs in Singapore had experienced a SARS outbreak in the past and thus were well prepared for COVID-19, both psychologically and in their infection control measures (20).

A systematic review and meta-analyses conducted by Townsend et al. of 13 cross-sectional studies and a total of 33,062 participants also provided similar evidence that a high proportion of healthcare professionals experienced significant levels of anxiety, depression, and insomnia during the COVID-19 pandemic. Sub-analysis also revealed potentially important gender and occupational differences. The prevalence rate of anxiety and depression appeared to be higher in females, which was analogous to the results presented in a preprint manuscript by Saleem et al. and similar to the results of the present study. At the same time, the nursing staff exhibited higher prevalence estimates both for anxiety and depression compared to doctors, being antagonistic to the results of the present study (7, 13).

The present research was conducted in line with recent questionnaire-based surveys to investigate the impact of the COVID pandemic on stress levels and burnout among HCWs (2, 10, 21). Based on Alnazly et al.'s research, fear, depression, anxiety, and stress were common among HCWs in Jordan (6). According

to Janson and Rello, clear communication, limitation of shift hours, provision of rest areas, broad access and detailed rules on the use and management of PPE, and specialized training on handling COVID-19 patients could reduce anxiety coming from the perceived unfamiliarity and uncontrollability of the hazards involved (22).

Conclusion

In conclusion, the present study found high levels of anxiety and fear among Indian HCWs during the COVID-19 pandemic. As stable mental health is essential and plays a significant role in strengthening immunity, educational interventions should target HCWs to ensure understanding and use of infectious control measures. Psychological support could include counselling services and development of support systems.

Conflicts of interest: None declared.

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