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# COVID-19 suicide and its causative factors among the healthcare professionals: Case study evidence from press reports

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## Abstract

**Purpose:** Recent research has demonstrated the psychological impact of the coronavirus disease 2019 (COVID-19) pandemic among the general population. However, COVID-19-related suicides among healthcare professionals (HCPs) have yet to be investigated.

**Findings:** The present study utilized retrospective press media suicide reports and identified a total of 26 worldwide HCP COVID-19-related suicide cases (aged 22–60 years; 14 females; most of the cases from India). The cases comprised doctors ( $n = 11$ ), nurses ( $n = 9$ ), paramedics ( $n = 5$ ), and one medical student. Being infected with the COVID-19 was the most common suicide reason, followed by work-related stress, and fear related to COVID-19 infection/transmission. Among the eight cases diagnosed with COVID-19, most were female ( $n = 6$ ), and either doctors ( $n = 4$ ) or nurses ( $n = 4$ ).

**Practice Implications:** The present findings will be helpful for human resources departments in healthcare workplaces in ensuring HCP's mental wellbeing.

## KEYWORDS

COVID-19 suicide, healthcare professionals' suicide, hospital suicide, pandemic suicidal behavior

## 1 | INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic has affected almost the entire world with its rapid transmission rate. As a result, healthcare professionals (HCPs) globally have been under extreme pressure in the care and management of their patients.<sup>1–3</sup> In addition, HCPs are more likely to be infected with the COVID-19 than other individuals because of their repeated exposure to the virus and reported lack of appropriate personal protective equipment.<sup>4,5</sup> Alongside the risk of personal infection, HCPs also have other concerns such as worrying that they will infect their families and relatives if they are infected with the virus, the uncertainty of access to rapid testing facilities for their own and family members if they get infected, and so forth.<sup>2,4,6</sup> As a result, the HCPs have reported higher increased psychological suffering (e.g., depression, anxiety, insomnia,

etc.) compared with other cohorts (see Pappa et al.<sup>7</sup> for a recent review).

Repeated exposure to highly stressful situations in healthcare facilities can facilitate mental instability and in an extreme minority of cases may lead to suicidal tendencies, especially given that 90% of global suicides occur due to psychological suffering.<sup>8,9</sup> The fear of contracting COVID-19 among HCPs may also have unintended consequences for their patients. For instance, a woman in Bangladesh committed suicide on hospital premises because of perceived negligence by the hospital staff not treating her. It was alleged that HCPs did not want to treat her because they thought she had COVID-19.<sup>4</sup>

Evidence suggests that increases in suicide rates during and after a pandemic is not unusual.<sup>10,11</sup> For instance, higher suicide rates were observed in 1918–1919 Spanish influenza pandemic in

the United States, and the 2002–2003 severe acute respiratory syndrome (SARS) pandemic in Hong Kong.<sup>12</sup> There have been various cases in the psychological literature concerning COVID-19-related suicides in the general population from different parts of the worlds including Bangladesh,<sup>10,13,14</sup> India,<sup>11,15,16</sup> Pakistan,<sup>9,17</sup> and more globally,<sup>18–20</sup> but HCP's COVID-19-related suicide has not previously been investigated.

By the end of the last decade, profession-wise suicide risk increased significantly in specific occupational groups, especially among medical-related professions (i.e., 3–5 times higher suicide risk than the general population<sup>21</sup>). Therefore, HCPs' suicide rate may be further increased during (and in the aftermath of) the pandemic due to the aforementioned problems and challenges in healthcare systems (as well as traumatic suffering originated from the pandemic). At present, there is currently no systematic evidence of the HCPs' suicide and potential risk factors which are essential to prevent further suicides. Therefore, the present study investigated the factors associated with COVID-19-related suicides among HCPs globally by utilizing reports collected from the print media.

## 2 | METHODS

Based on previous studies, the present study utilized the press media reporting suicide method (e.g., Dsouza et al.,<sup>11</sup> Bhuiyan et al.,<sup>14</sup> Griffiths & Mamun et al.<sup>20</sup>), a retrospective method that has been used for extracting common suicide data such as age, gender, method of suicide, and suicide reasons.<sup>22</sup> Here, the *Google News* search engine was used to extract HCP-related suicide press media reports using English keywords such as “doctor suicide,” “nurse suicide,” “physician suicide,” “medical technologist suicide,” “healthcare suicide,” “hospital suicide,” “healthcare professional suicide,” and “COVID-19 pandemic,” “COVID-19 suicide,” “COVID-19 fear,” and “pandemic.” Because HCPs are frontline workers in the fight against COVID-19 and are among the most important key workers during the pandemic, press coverage of such suicides will more likely have received press coverage than suicides among other groups such as the general population.

## 3 | RESULTS

After excluding duplicate cases, a total of 26 suicide cases were found (aged 22–60 years; 14 females and 12 males). Of these, 11 were doctors, nine were nurses, five were paramedics, and one was a medical student. Most of the cases were from India ( $n = 8$ ), followed by United States ( $n = 6$ ), UK ( $n = 3$ ), Russia ( $n = 3$ ), Pakistan ( $n = 2$ ), Italy ( $n = 2$ ), France ( $n = 1$ ), and Mexico ( $n = 1$ ). Five press media reports did not report the possible suicide reasons. Of the remaining 21 cases, being infected with COVID-19 were the most common suicide reason ( $n = 8$ ), followed by work-related stress ( $n = 7$ ), and fear concerning COVID-19 infection ( $n = 4$ ). Lesser reasons included fear of transmitting the virus to others, and anxiety from witnessing

deaths and being unable to save lives of those with COVID-19. Other reasons included unstable mental conditions such as missing family, depression, and previous suicidal behavior (Table 1).

Table 1 also separates out those diagnosed with COVID-19 from those who were not. Six out of eight suicide cases diagnosed with COVID-19 were female. Among the 18 suicide cases who had not been diagnosed with COVID-19, the majority were male ( $n = 10$ ). In relation to medical occupation, the eight suicide cases diagnosed with COVID-19, four were doctors and four were nurses. Among the 18 suicide cases who had not been diagnosed with COVID-19, more diverse medical occupations were reported (seven doctors, five nurses, five paramedics, and one medical student).

## 4 | DISCUSSION

The present study provides an initial observation concerning COVID-19-related suicide reasons among a cohort who are fighting against COVID-19 on the frontline. Based on the findings, being infected with COVID-19 was the most common suicide reason reported ( $n = 8$ ), followed by work-related stress ( $n = 7$ ), fear concerning COVID-19 infection ( $n = 4$ ), fear of transmitting the virus to others, anxious by witnessing overwhelming deaths, and mental suffering. However, HCPs' suicide reasons appear to be different from that of the general population. For instance, in other studies, fear of COVID-19 infection was reported in one-third of suicides among the Indian general population (i.e., 21 cases out of a total 69 cases), followed by economic distress ( $n = 19$ ). Reports from Bangladesh (i.e., all but one out of a total nine cases) and Pakistan (i.e., 12 out of 16 cases) suggested that economic factors due to COVID-19 were the predominant reason for COVID-19-related suicides.<sup>9,10,14</sup> In addition, other COVID-19-related suicide risk factors have been reported including loneliness, missing family, being socially boycotted by others, and social negligence, being infected with the COVID-19, alcohol unavailability, and COVID-19 work-related stress.<sup>11</sup>

Although there were no vaccines and no specific proven treatments available for combating COVID-19 at the time of writing, some public health preventive measures have been implemented to control its' exponential growth.<sup>11</sup> These measures help provide protection for the general population, but HCPs are at much higher risk of contracting COVID-19 because of their working environment. In addition, the global transmission rate has not yet been suppressed as was originally expected. Consequently, enormous pressure is being placed upon healthcare systems, particularly in the critical care services, which makes HCPs psychologically more vulnerable.<sup>4</sup> This is reflected in the present study, where work-related stress was one of the common reasons for suicide among HCPs.

Furthermore, the psychological stress-mediating factors such as fear of person-to-person transmission to and/or from others, and other mental health issues experienced in relation to what HCPs see at the hospital, prolonged isolation, being overwhelmed by the number of deaths of patients in their care, working with insufficient and poor quality personal protective equipment (PPE), penalties for

**TABLE 1** Description of healthcare professionals' COVID-19-related suicide utilizing press media reports

Case	Reported date	Country	Status	Gender	Age	Possible suicide reason(s)	Suicide method
Suicide cases among those diagnosed with COVID-19							
1	March 26	Italy	Nurse	Female	34	Infected with COVID-19. Fear of transmitting the virus to others	Not reported
2	April 06	France	Doctor	Male	60	Infected with COVID-19	Not reported
3	April 29	USA	Doctor	Female	49	Infected with COVID-19. Mentally detached witnessing deaths	Self-inflicted injury
4	May 06	Russia	Doctor	Female	48	Infected with COVID-19	Jumped out of a window
5	May 06	Russia	Doctor	Male	37	Work-related stress. Infected with COVID-19	Jumped out of a window
6	May 28	India	Nurse	Female	22	Infected with COVID-19	Hanging
7	June 02	India	Nurse	Female	22	Infected with COVID-19	Hanging
8	June 04	Mexico	Nurse	Female	Not reported	Fear of COVID-19 infection Infected with COVID-19	Not reported
Suicide cases among those not diagnosed with COVID-19							
1	March 18	Pakistan	Nurse	Female	34	No exact reasons reported	Not reported
2	March 25	UK	Nurse	Female	20	No exact reasons reported	Not reported
3	March 31	Italy	Nurse	Female	49	Fear of COVID-19 infection	Drowned jumping into a river
4	April 20	UK	Paramedics	Female	23	Work-related stress. Missing family	Not reported
5	April 24	USA	EMT Paramedic	Male	44	No exact reasons reported	Not reported
6	April 28	USA	Paramedics	Male	23	Anxious by witnessing deaths and being unable to save lives	Not reported
7	May 01	India	Doctor	Female	25	Suffering from depression	Jumped from a building (sixth floor)
8	May 01	India	Medical student	Female	22	Work-related stress	Not reported
9	May 06	Russia	Doctor	Female	47	Work-related stress	Jumped out of a window
10	May 07	Pakistan	Doctor	Male	27	Fear of COVID-19 infection	Not reported
11	May 20	USA	Nurse	Male	32	Fear of COVID-19 infection	Opioid overdose
12	May 25	India	Nurse	Female	28	Mentally disturbed	Jumped from a building (10th floor)
13	June 18	USA	Doctor	Male	34	No exact reasons reported	Jumped into river
14	July 10	India	Doctor	Male	25	Severe depression and suicidal tendencies	Jumped from a building (10th floor)
15	July 20	USA	EMT paramedic	Male	36	Work-related stress	Not reported
16	July 21	India	Doctor	Male	24	Work related stress	Jumped from a building (third floor)
17	August 4	UK	Paramedic	Male	Not reported	No exact reasons are reported	Not reported
18	August 5	India	Doctor	Male	24	Work-related stress.	Hanging

Abbreviation: COVID-19, coronavirus disease 2019.

complaining to employers, etc. makes this group vulnerable to mental health suffering, and in the extreme case, can lead to suicide.<sup>2,4,6,23</sup> The present findings also found other reasons for suicide including fear of being infected with COVID-19, fear of transmitting COVID-19 to others, anxiety concerning death by COVID-19, and having pre-existing mental health conditions.

The present study found almost equal rates of suicide among both males and females, which is unlike previous non-COVID-19-related reports. For instance, Schernhammer and Colditz<sup>24</sup> reported that compared with the general population, the aggregate suicide rate ratio for male physicians was 1.41, and for female physicians was 2.27. Similar findings (i.e., more females committing suicide) have also reported been

reported among medical sciences students.<sup>25</sup> However, gender-based suicide among general population in the COVID-19 context has found that males tend to be at greater risk. For example, 12 out of 16 cases in Pakistan,<sup>9</sup> and 63 out of 69 cases in India,<sup>11</sup> which is quite different to the present finding. The present study also found that among those that had been diagnosed with COVID-19, the majority of suicide cases were (i) female (six out of eight) which was not the case among those not diagnosed with COVID-19 (eight out of 18), and (ii) were doctors ( $n = 4$ ) or nurses ( $n = 4$ ) but was more diverse among those not diagnosed with COVID-19. All though the findings are based on very small and non-representative cohort, the vulnerability of female HCPs diagnosed with COVID-19 should be noted by healthcare employers.

Based on the present findings, HCPs appear to be committing suicide due to issues related to being infected with COVID-19, fear of COVID-19 and safety, work-load stress, and pre-existing mental health conditions, which are different to COVID-19-related reasons for suicide among the general population. Consequently, the present authors recommend some preventive strategies that are essential and somewhat different to those for the general population. These should be provided by the hospital or government authorities and include: (i) prioritizing HCP family access to testing and treatment to reduce HCP uncertainty, (ii) ensuring the best personal protective equipment and safety measures (e.g., providing enough personal protective equipment, providing safe hospital environment, etc.), (iii) facilitating risk minimizing practices (e.g., showering at work before coming home, not bringing work clothes home, etc.), (iv) ensuring flexible duty schedules to reduce work-related distress, and (v) enhancing training and professional skills in an attempt to minimize the spread of COVID-19.<sup>2,4</sup>

The present findings are limited because the information was collected from press media reports published in the English language. However, Mamun and Griffiths<sup>22</sup> emphasized the importance of such media reports in suicide research especially where available information is limited. In addition, the press reports that were collected were not verified by psychological autopsies, which may limit the findings. Finally, the suicide cases extracted from the Google News search engine may also be a limitation of the study, because some of the cases might not have been picked up.

## 5 | IMPLICATIONS FOR PSYCHIATRIC NURSING PRACTICE

Hospitals are at the forefront of helping combat the COVID-19 crisis, and HCPs work on the frontline daily. Suicide occurrence by HCPs may subsequently affect other HCPs in their day-to-day work. Therefore, a supportive workplace infrastructure for HCPs is needed to ensure good mental health wellbeing. Support is needed for preparation for their role, monitoring of their mental health, and regular mental health evaluation. These are essential to maintain a healthy and productive workforce with full partnership within the multi-disciplinary team. Furthermore, adequate quantity and quality supplies of PPE, COVID-19 compliant work practices, and infection control measures are required to reduce the burden of further stress.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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