The impact of the COVID-19 pandemic on the mental health of healthcare professionals

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Summary

Introduction: Healthcare professionals (HPs) have been confronted by unprecedented traumatic experiences during the novel coronavirus disease (COVID-19) pandemic, especially in countries that had not experienced similar epidemic outbreaks in recent years.

Aim: To analyze the impact of the COVID-19 pandemic on the mental health of HPs.

Method: We comprehensively reviewed the studies published in MEDLINE (PubMed), Web of Science and Google Scholar between December 2019 and May 2020.

Results: Most studies report a high prevalence of anxiety and depressive symptoms among HPs that can be associated with: (i) COVID-19 exposure; (ii) epidemiological issues; (iii) material resources; (iv) human resources; and (v) personal factors. The role of certain variables, before, during and after the pandemic, remains unexplored. Longitudinal studies will help elucidate which factors are associated with a higher risk of developing long-lasting negative effects. Qualitative studies may contribute to understanding the influence of individual and social narratives in HPs' distress.

Conclusion: A deeper analysis on the individual, institutional, political and socio-cultural factors, meanings and values influencing HPs distress and resilience during the COVID-19 pandemic is needed.

Introduction

In December 2019, a new severe type of pneumonia, later known as novel coronavirus disease (COVID-19), was reported in Wuhan, Hubei, China. Over the subsequent months, it rapidly extended around the world although not all countries have been equally affected. By 24 May 2020, the World Health Organization (WHO) had been informed of 5,165,481 cases of COVID-19, including 336,430 deaths.
COVID-19 exposure

HPs working in the first line of care, with higher clinical responsibilities and those who have been infected have had higher prevalence of anxiety and depressive symptoms.3,8–20 Fear of colleagues, families or themselves being infected has been a major cause of distress.13 However, little is known about some related situations that they may have gone through during the pandemic, including HPs that had to be quarantined or those who needed hospitalization; having to make difficult end-of-life decisions; and some vicarious trauma experiences, such as accompanying dying patients when the family could not be present due to preventive measures. It would also be useful to explore the mental status of those in the second line of care and the impact of using remote treatment devices on their wellbeing.

Epidemiology

The likelihood of developing distress is also related to the impact of the pandemic in each territory and to the pandemic stage when the study was conducted, with greater suffering when the number of cases was increasing.3,8–19 Higher incidence rates positively correlated with higher prevalence of anxiety and depression. Recent experience in similar epidemic outbreaks helped to decrease the distress as both HPs and the general population were more familiar with what was likely to occur once the first cases of COVID-19 had been identified.

Public health policies

The effect of political issues on HPs’ mental health during the pandemic has not been studied. A wider analysis should include information on the extent to which each government achieved data transparency and designed a clear and effective prevention and treatment plan. Information about the coverage of public health systems in each country should also be considered.

Material resources

Shortage of personal protection equipment has been associated with fear of contagion among HPs, especially among those at the first line of care.3,8–20 On the other hand, providing healthcare workers with resting places and giving them adequate time to take a break and sleep, whether in their work locations or outside, i.e. adapted hotels, has contributed to lessen the impact of physical and emotional exhaustion and it even proved to be more effective than offering psychological support during the outburst of the pandemic.14 Differences between working in the public and private health sectors have seldom been analyzed.18

Human resources

Close contact with infected patients and higher level of professional responsibility increased the likelihood of suffering from mental distress.3,8–20 Higher exposure to COVID-19 was present among those in the first line of care: emergency departments, intensive care units, COVID-19 hospitalization units, support ambulance services and primary care personnel. HPs with previous healthcare working experience were found to be more resilient when faced with stressful situations. Excessive hours on duty increased the risk of developing insomnia and emotional exhaustion.15,12,17 However, it would also be interesting to know: the impact of having to rapidly acquire expertise to attend COVID-19 patients (for instance, pediatricians working as internal medicine specialists); the impact on resident or in-
in most countries, have changed their normal scenario. This pandemic, the shortage in personal protective equipment, dealing with loss, the high morbidity and mortality rates of COVID-19 has confronted many HPs with unexpected, life-threatening experiences for which they had not been trained. Although they are used to witnessing trauma and to regularly dealing with loss, the high morbidity and mortality rates of this pandemic, the shortage in personal protective equipment, the fear of they or their family members becoming infected, the absence of an effective treatment/vaccine on the immediate horizon and the new restrictive public health policies activated in most countries, have changed their normal scenario. Therefore, during the pandemic, the majority of them have experienced unpleasant emotions, including fear, hyper-arousal, intrusive memories and insomnia, as well as some related to sadness or emotional exhaustion. The more they were exposed to unexpected life-threatening situations or uncertainty, the more mental distress they were likely to experience. However, most HPs have chosen to take care of patients with COVID-19 infections despite the risk to themselves and their families.

During the COVID-19 pandemic, many have been infected, needing to be quarantined or even hospitalized. From previous experiences, we learnt that those quarantined tend to feel more anxious, frustrated, helpless and isolated than non-healthcare workers. Their main fear is the infection risk to themselves or their family members, especially when children are involved and they feel guilty and powerless as they cannot help their peers.

With respect to the long-lasting mental health consequences of the pandemic, we know that posttraumatic stress symptoms, depression and alcohol or substance misuse were reported by HPs months and years after the SARS outbreak, mainly among those with high-risk exposure or who needed to be quarantined, although it was lower among those with altruistic acceptance of risk during the outbreak or with higher social support. In fact, a big concern is that HPs may be reluctant to ask for help if needed. Self-treatment, denial, rationalization or minimization may be initial defense mechanisms used to confront stressful situations but may result in not seeking appropriate help when developing a mental disorder. During the COVID-19 outbreak, this tendency might have changed. The social recognition HPs are receiving during this pandemic together with the the mass and social media diffusion of their testimonies could help to lower the internal psychological barriers to seeking professional aid if necessary. However, when it comes to severe mental disorders, self-stigmatizing attitudes may persist. Easy access to medication or potentially lethal means may increase the risk of not asking for help in such circumstances. Psychological assistance provided to HPs during the pandemic should be extended afterwards for cases at higher risk of developing mental disorders.

### Discussion

The COVID-19 has confronted many HPs with unexpected, life-threatening experiences for which they had not been trained. Therefore, during the pandemic, the majority of them have experienced unpleasant emotions, including fear, hyper-arousal, intrusive memories and insomnia, as well as some related to sadness or emotional exhaustion. The more they were exposed to unexpected life-threatening situations or uncertainty, the more mental distress they were likely to experience. However, most HPs have chosen to take care of patients with COVID-19 infections despite the risk to themselves and their families. During the COVID-19 pandemic, many have been infected, needing to be quarantined or even hospitalized. From previous experiences, we learnt that those quarantined tend to feel more anxious, frustrated, helpless and isolated than non-healthcare workers. Their main fear is the infection risk to themselves or their family members, especially when children are involved and they feel guilty and powerless as they cannot help their peers.

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| COVID-19 EXPOSURE | Epidemiology | Health policies | Material resources | Human resources | Personal factors |
|------------------|--------------|----------------|-------------------|----------------|-----------------|
| First line of care (Emergency/Intensive care units/Primary care/COVID-19 hospitals) | Previous epidemics | Public data transparency | Personal protection equipment availability | Psychological support resources | Sex |
| COVID + (quarantined) | Incidence (country/region) | Government global action plan | Time/place to rest | Hours on ward | Age |
| Peer infection/deaths | Pandemic stage | Public health strategy | Health system capacity (hospitals, intensive care units) | ‘Converted’ medical professionals | Social support |
| Vicarious trauma (type) | | Public health system coverage | | Internal residents | Coping strategies |
| Hospitalized for COVID-19 | | | | New teams’ formation | Personality traits |
| End-of-life decisions | | | | Reinforcement staff | Attachment style |
| Degree of responsibility | | | | | Having children |
| Second line of clinical care | | | | | Pre-morbid mental disorders |
| Remote teleworking | | | | | Recent physical symptoms |

Highlighted factors are those referred to the systematic review selection.
Longitudinal studies should help ascertain the long-lasting consequences of the acute distress among HPs facing this pandemic. More ambitious research strategies, using big data analysis, may shed some light into how proximal factors (related to HPs experience) and distal factors (linked to institutional, political or socio-cultural issues) have influenced HPs’ mental health during the COVID-19. Despite the importance of quantitative analysis, qualitative research may contribute to draw a more accurate picture of individuals and socio-cultural narratives related to the pandemic and their influence on trauma response as we already know that providing a meaning to traumatic experiences and having social support correlates with a lower presence of mental distress in the short and mid-to-long term.

The psychobiological underpinnings of acute and chronic responses to trauma are diverse. Nevertheless, a comprehensive approach to trauma should include the specific psychosocial context within which the response to trauma is embedded. Socio-cultural narratives, including communitarian beliefs such as ideologies or religions, personal life meaning, social support or coverage of basic needs modulate human response to trauma. Although throughout history mankind has suffered many traumatic experiences, resilience is not an exception but, fortunately, it is the most common human response to suffering.

A profound analysis on the individual and contextual factors influencing HPs’ psychological response to similar traumatic experiences has to focus not only on mental distress but also on why most of them prove to be resilient during and after traumatic experiences.

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