

Lessons from the first wave: Mental Health Impact of Covid-19

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Abstract

Background: Pandemics have a disproportionate impact on the mental health of healthcare workers. Alongside its substantial impact on physical health, the COVID-19 pandemic continues to exert a profound effect on mental wellbeing.

Aims: To determine the level of stress, anxiety and depressive symptoms amongst healthcare workers in a single United Kingdom (UK) centre during the first wave of the COVID-19 pandemic, and to identify contributing factors which may be targeted to improve mental wellbeing in the future.

Methods: A questionnaire was distributed to staff members of a UK district general hospital within a two-week period. Questions were based on the Depression Anxiety Stress Scales questionnaire. Additional questions were included, allowing for perception of adequacy of wellbeing resources, senior support, access to personal protective equipment (PPE) and impact on training to be assessed.

Results: 69 total responses were collated. 36% of respondents reported depressive symptoms, 44% reported anxiety-related symptoms, and 30% reported stress-related symptoms. Of all respondents, 25% reported inadequacy in the availability of staff wellbeing resources, 10% reported inadequacy in senior support, and 9% reported inadequacy in PPE availability. 59% of respondents reported an adverse impact on training. A significant relationship was noted between impact on training and depressive symptoms ($p=0.03$).

Conclusion: A high rate of depression, anxiety and stress was reported in healthcare professionals. Impact on training was identified as a significant contributory factor. Wellbeing resources are in place however access is poor. Future plans need to focus on the provision of targeted tools aiming to improve mental wellbeing.

Keywords: covid-19; mental health; healthcare workers; questionnaire

Introduction

To date, COVID-19 has caused over 500 million confirmed infections and over 6 million deaths [1]. Alongside the huge impact that the virus has had on physical health, the impact of the virus continues to exert profound acute and chronic effects on the world's mental health. The need to plan for this mental health crisis was recognised early on by the World Health Organisation [2]. Indeed, the largest tertiary hospital in the Hunan Province ran a program to support staff members' psychological wellbeing [3]. The literature has long recognised the mental health challenges of working in healthcare [4,5]. Evidence from previous epidemics, such as the South Asian Respiratory Virus (SARS) and the Middle East Respiratory Virus (MERS), has shown that pandemics have a disproportionate impact upon the mental health of healthcare workers [6-9]. The evidence is bearing out this pattern for COVID-19. In their cross-sectional study across 34 hospitals in China, Lai et al. noted 72% of healthcare workers in China reporting psychological distress, and 50%

reporting symptoms of depression [10]. This study aims to review the level of stress, anxiety and depressive symptoms amongst healthcare workers in a single United Kingdom (UK) centre during the first wave of the COVID-19 pandemic in 2020. Secondary aims include assessing local perception of the adequacy of senior support, impact on training, availability of personal protective equipment (PPE), and utilisation of staff wellbeing measures during this period to identify possible contributing factors. We subsequently present a commentary of key learning points to reduce the mental health burden exerted by current and future pandemics.

Methods

A paper questionnaire was distributed to all staff members within a district general hospital between a two-week period (4th May 2020 to

18th May 2020). All responses were anonymised, and involvement was voluntary. Local directorate approval was granted. Response options were multiple-choice. The survey was based on the Depression Anxiety Stress Scales 21 (DASS-21) questionnaire, where respondents were asked to circle a rating for each statement between zero and three [11]. The lowest score (zero) defined an opinion of 'does not apply to me at all', and the

highest score (three) defined an opinion of 'applied to me very much, or most of the time'. A total score was calculated from which the presence and severity of depression, anxiety and stress-related symptoms could be objectively determined. Unanswered questions were scored zero. Additional questions were included allowing for secondary outcomes to be defined (Figure 1).

22	<i>I feel the availability of wellbeing resources being offered to staff is adequate</i>
23	<i>I feel supported by my seniors in my immediate team</i>
24	<i>I have accessed the 'Staff Wellbeing Support' page on the trust website</i>
25	<i>I have concerns about the availability of COVID19 swabs being offered healthcare workers in the trust</i>
26	<i>I feel the trust is providing me with appropriate PPE that is readily available</i>
28	<i>I feel my training has been adversely affected (where applicable)</i>

Figure 1 - Additional Survey Questions

For questions relating to the availability of staff wellbeing resources, access to the trust staff wellbeing support webpage, PPE availability, and degree of senior support, a score of zero defined inadequacy and scores one to three defined adequacy. For the question relating to impact on training, a score of zero defined adequacy and scores one to three defined inadequacy. Hypothesis testing using chi-square test was used to analyse the association between categorical variables. A p -value <0.05 was defined as being statistically significant.

Results

69 responses were collated following distribution of the questionnaire. Of these, 19 (28%) were doctors, 20 (29%) were nurses or care practitioners, 29 (42%) were other members of the allied health professional team, and one respondent did not identify a role. 25 (36%) respondents reported depressive symptoms, 30 (44%) reported anxiety-related symptoms, and 21 (30%) reported stress-related symptoms all ranging from 'mild' to 'extremely severe' in severity. No significant association was identified between presence of depressive symptoms and clinical role when comparing doctors (42% vs 39%, $p=0.80$) or nurses/care practitioners (40% vs 35%, $p=0.72$) to other healthcare practitioners respectively. 17 (25%) respondents reported inadequacy in availability of staff wellbeing resources. One individual was excluded from analysis due to no response. 35 (52%) reported not having accessed the 'Staff Wellbeing Support' webpage (score zero). No significant association was identified between depressive symptoms reported and availability of wellbeing resources offered to staff members ($p=0.47$). 7 (10%) respondents reported inadequacy in being supported by a senior (score zero). No significant relationship was identified between adequacy of senior support and depressive symptoms ($p=0.70$). 6 (9%) individuals reported inadequacy in availability of PPE. Two datasets were excluded from analysis due to incomplete values. No significant relationship was identified between availability of PPE and depressive symptoms ($p=0.27$). 36 (59%) respondents reported training had been adversely affected and was therefore considered inadequate. 8 datasets were excluded due to incomplete values. A significant relationship was identified between impact on training and depressive symptoms reported in healthcare workers ($p=0.03$).

Discussion

Unprecedented Strains: The Risk of Moral Injury Amongst Healthcare Workers

The rate of depressive symptoms reported in our centre was 36% during the first wave of the COVID-19 pandemic in 2020. This is a concerning figure, particularly in association with the high levels of concomitant anxiety and stress reported by staff members. A significant contributory factor is the unprecedented strain upon the UK's healthcare resources. This has the potential to lead to moral injury, particularly for those working at the frontline. The concept of moral injury originated within the military and describes psychological distress experienced by individuals when their own action or inaction violates their own ethics [12]. Examples have been seen in medical students in prehospital care where they are exposed to a high-pressure environment with insufficient training [13]. This is borne out in a systematic review that reported frontline workers are at increased risk of developing adverse mental health outcomes during disasters [14]. Individuals working in unfamiliar departments or hospitals because of rota gaps will also carry a risk of developing moral injury if they feel they have not been adequately trained to do so. Furthermore, the long hours and high stress of dealing with sick and dying patients can lead to compassion fatigue.

Worry about Physical Health: A Major Psychological Stressor

Given the long standing and highly publicised issues regarding availability of PPE in the UK, together with the number of healthcare professions that have died after contracting COVID-19, it is likely that this has been a major source of psychological stress for employees within the National Health Service (NHS). However, our results demonstrate no significant relationship between PPE availability and depressive symptoms, with a low rate of inadequacy reported by respondents. This contradicts existing data and may have reflected local variance in equipment availability. Chen et al. report lack of PPE to be both a source of stress and a barrier to staff accessing psychological help at the largest tertiary centre in the Hunan Province [3]. This suggests concerns about physical health is detrimental to mental wellbeing, which is echoed by an Australian study by Kisely et al. reporting an infected family member or child at home were major sources of stress [15]. Hence, a coherent and well considered psychological support system goes hand-in-hand with a system of PPE. Chen et al. report mental wellbeing being improved by practical provisions including PPE, food to avoid the stress of shopping in depleted shops, and accommodation to sleep after long shifts [3].

Post Traumatic Growth: Can anything good come from the COVID-19 Pandemic?

Shared trauma can bring teams together due to increased communication, trust and respect between members that have seen each other work well under very difficult circumstances [16]. This in turn can also lead to the development of skills in leadership and the emergence of new leaders within the group, together with empowerment of junior members of the team that have the opportunity to prove themselves in a challenging situation. However, in order for this to happen, teams need to be well led with strong mutual respect between the team and the leader [16]. Our results suggest 90% of those questioned felt adequately supported by their immediate seniors, facilitating the growth of local teams. It will be important for hospitals to continue this sense of support into the future. Staff will need to receive regular support as both the physical effects of the virus and its mental health implications will be long-lasting. Furthermore, it is easy for those in leadership roles to have their own needs neglected [12], and so mental health services for healthcare professionals need to include all levels of seniority. However, we identified a significant relationship between impact on training and depressive symptoms reported in healthcare professionals. Hence, the detrimental impact of the virus on professional progression likely has a negative impact on mental health in healthcare workers, acting as a key psychological stressor. It will therefore be important that the appropriate senior involvement and a strong support system is in place to support individuals in pursuing their training.

Proactivity: Ensuring Accessible and Targeted Support

Though there was no significant relationship between depressive symptoms and the availability of wellbeing resources, a large proportion of respondents reported the availability of staff wellbeing resources as inadequate (25%). However, the proportion of respondents who had not accessed the 'Staff Wellbeing Support' webpage was also substantial (52%), which may suggest low perceived adequacy may be related to low utilisation rather than relating to the quality of resources available. This could be due to lack of awareness, the perceived need to 'stay strong', or a lack of willingness among healthcare workers to discuss their own mental health [3]. Therefore, any program dealing with healthcare workers' mental health would need to proactively make sure that staff were aware of it, and not rely on members accessing it themselves. This, together with the high numbers that a program will need to reach, will require use of new techniques within the field of digital psychiatry such as telepsychiatry, artificial intelligence and internet-based computer aided mental health tools [17]. Furthermore, a proactive approach using these tools will be needed to deliver help where it is most needed. Studies have identified that female staff members, frontline workers, and nurses are at increased risk of developing mental health symptoms during a pandemic [10,18]. We should establish identification of those healthcare workers that are at greater mental health risk from the virus and offer targeted resources. A further study found that staff members' concerns varied with age - with staff members aged between 31-40 most worried about infecting their families, and staff over 40 most worried about their own health [19]. Such an approach will need continual research in this area. In conclusion, this study has identified that the COVID-19 pandemic has exerted a significant mental health burden on healthcare professionals. Key contributory factors include impact on training and a lack of uptake of staff wellbeing support measures. Going forward, appropriate leadership and senior support to fulfil training needs, and the proactive provision of targeted tools aiming to improve mental wellbeing is vital.

With adequate mental health provision, we can try to ensure that the NHS learns many lessons and bounces back from this crisis stronger than it was before. None of the concepts required for this are new – they are things that we read in the key performance indicators of slogans of NHS organisations. However, putting them into practice is difficult and time consuming, but very necessary if we are not to face a mental health pandemic amongst healthcare professionals after they have risked so much fighting COVID-19.

Key Points

- What is already known about this subject matter
 - Pandemics are known to exert a profound negative effect on the mental wellbeing of healthcare workers.
 - Current evidence is bearing out this pattern for COVID-19.
- What this study adds
 - This single-centre study corroborates the profound mental health effect of the COVID-19 pandemic in healthcare workers during the first wave, with 36% of individuals reporting depressive symptoms.
 - Underutilisation of available wellbeing resources and the impact of the pandemic on training opportunities have been highlighted as contributory factors.
- What impact this may have on practice or policy
 - Trusts should look to actively promote mental health resources in order to improve uptake, particularly targeting high-risk groups.
 - The detrimental impact brought about by the virus on training opportunities, which may contribute to this mental health burden, may serve as evidence for promoting medical education in the wake of the pandemic.

Competing Interests

None

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None

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